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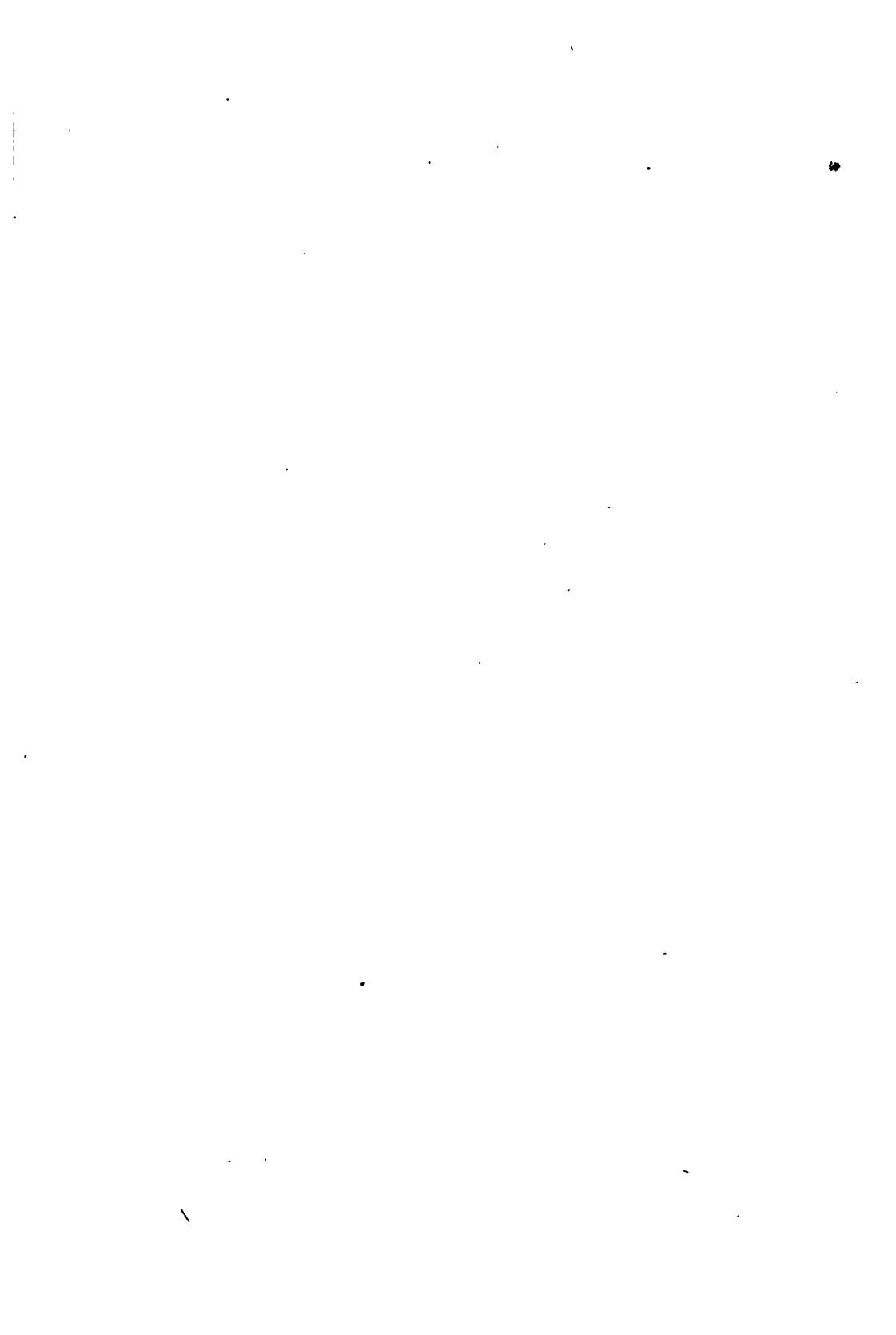
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# HOMEOPATHIC JOURNAL

OF

## OBSTETRICS

### Gynecology and Pediatrics

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WM. FRANCIS HONAN, M. D., EDITOR

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THE HOMEOPATHIC

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EDITOR, WM. FRANCIS HONAN, M. D.,  
Sherman Square Hotel, New York.

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## APPENDICITIS COMPLICATING PREGNANCY AND PARTURITION.\*

BY B. FRANK BETTS, M. D., PHILADELPHIA.

It is reasonable to assume that the frequency with which appendicitis is met with in the human race may be accounted for by the fact that the organ involved is vestigial, and slowly undergoing atrophic changes. Its low grade of functional activity conduces to a diminution in its vascular and nerve supply. This leads to atrophic paresis, sluggish metabolism, and tissue degeneration. Disease follows closely upon such conditions, for when the vitality of any organ or tissue of the body is below the standard of health, the invasion of pathogenic bacteria is much more likely to be followed by the development of specific morbid effects. The appendix is so closely connected to the intestinal canal as to favor such an invasion. Under these circumstances the secretions become vitiated, peristalsis becomes defective, and the most favorable conditions exist for the development and multiplication of bacteria. As a result inflammation ensues, followed by cica-

\* Read before the Homeopathic Medical Society of Pennsylvania.

tricial stenosis or the formation of appendicinal concretions, either of which may block the lumen of the organ as effectually as a kink or twist in its long axis. From defective circulation and enervation a "vicious circle" is formed that ends in ulceration, necrosis of tissue, abscess, or gangrene, with a possible liberation of septic matter within the peritoneal cavity and general septic peritonitis. From this stand-point we account for the observation that appendicitis is met with less frequently in women than in men, by the fact that the appendix has a better vascular and nerve supply from its close proximity to the tubo-ovarian structures. This anatomico-physiological advantage accounts for the increase of appendicular pain during menstruation. We know that primary (acute) appendicitis rarely develops in the early stages of pregnancy, for the reason that increased metabolism in all parts of the body is characteristic of this period. On the other hand, post-partum or child-bed conditions conduce to a lowered state of vitality, with a well-known defect in the power of the organism to resist the influence of microbic invasion. A review of the literature of appendicitis complicating pregnancy and parturition confirms these conclusions, and while the primary (acute) disease rarely develops during the early stages of gestation, it seems probable that when such cases do occur the increased metabolism will supply advantages from which we may expect better results, from a judicious course of homeopathic medication, than can be hoped for at the later stage of gestation, when physical influences, causing a displacement of the viscera, increase the defective metabolism. That medical treatment has an important sphere of usefulness in the successful management of this disease during the early stages of gestation may be illustrated by a report of the following case. In October, 1901, the writer was summoned, in consultation, to southern New Jersey, to see Mrs. M., who had just entered the sixth month of pregnancy. She had suffered from several attacks of severe pain in the region of the appendix, with occasional vomiting, loss of appetite, diarrhea alternating with constipation, and fetid breath. She was pale and emaciated, and there was sensitiveness over the right iliac region, but no evidence

of tumefaction, either from vaginal or external palpation. Bryonia was prescribed, but recognizing the necessity for prompt surgical interference, if satisfactory results were not soon obtained, arrangements were made for a daily report of the progress of the case. Under this treatment, with a restricted diet, a prompt result was obtained, so that the necessity for surgical interference was obviated. A communication from her physician, Dr. Geo. W. Fitch, dated August 30, 1902, informed me that the confinement was perfectly normal, and that during the later stages of gestation there were no further attacks of severe pain, and no complications before or after delivery: only a slight tenderness remains in the region of the appendix. This patient never had any symptoms of appendicitis before she became pregnant.

Mortality.—Appendicitis complicating pregnancy has always caused a mortality much greater than that reached in the class of cases not so complicated. Vinay refers to a death rate of 10 out of a total of 32 cases, a percentage of 38, which is certainly double that of ordinary cases. Another author collected 22 cases occurring in pregnancy with a mortality of 30.4 per cent.

It does not seem probable that any part of this mortality can be attributed to gestation as a prime factor *per se* in the development of the disease, but rather to the mechanical influence exerted by the gravid uterus upon purulent collections, surrounded by adhesions, remaining after previous, perhaps unrecognized, attacks of the disease. A sudden re-crudescence in these cases is a relapse, chronic inflammation having been overlooked, or a purulent accumulation having been unrecognized. While pregnancy may therefore play no part in the development of appendicitis, it renders the prognosis, respecting the life of both the mother and her offspring, much more serious when such a complication has already developed; and from this fact we deduce a strong argument in favor of the most careful and efficient treatment of the disease before marriage or the occurrence of pregnancy. One of the most serious complications to be met with in pregnancy is an appendicinal abscess, the result of a previous, acute attack of appendicitis, for in the whole domain

of obstetrical practice there is nothing that leads to more serious results, from the liability to rupture during uterine enlargement or the onset of labor pains. Even the presence of a small amount of pus, walled in by adhesions, or a fecal concretion in a thin-walled appendix, may menace the life of a parturient woman, from the danger of rupture.

A Cause of Septic Peritonitis.—In the experience of the writer a number of patients have been seen in consultation that were *not* clearly defined cases of puerperal fever arising from an infection of the parturient canal, but could be more accurately classed with cases of peritoneal infection, caused by the bursting of appendicial abscesses or tubo-ovarian accumulations of a similar character. A careful consideration of this subject has led to the conviction that appendicitis and salpingitis during pregnancy and childbirth have not claimed the attention that they deserve, and that an earlier recognition of these conditions may be the means of saving many valuable lives.

The following case was instructive in this respect: Mrs. L., a primipara, twenty-three years of age, had been in labor for nearly a week. The amniotic fluid had been discharged when she was visited in consultation on the 16th of April, 1902. Counsel was called for the reason that little progress had been made in the delivery of the child. The os was dilated to the size of a silver dollar. The presentation was L. O. A., but the head had not descended into the true pelvis. The previous history of the case was not mentioned at this time, and although pain and tenderness were complained of in the right side and in the dorsal aspect of the abdomen, percussion failed to give evidence of the collection of pus which was afterwards found in this locality, for the accumulation was back of the uterus and to the inner side of the ascending colon, which latter gave off the usual resonant sound.

There was nothing apparent in the patient's condition at the visit that called for manual interference, except that the pulse was accelerated, but this was accounted for by the protracted labor. Medicine was prescribed and the patient was advised to get out of bed and sit up until the head of the child became engaged, when the forceps would be applied.

The child was peculiarly susceptible to ballottement, and its outlines were faintly discernible through the thick abdominal walls: hence we presume that the uterus did not contract vigorously, and on this account, as well as the high position of the child, the application of the forceps was delayed.

Subsequently, at the abdominal section, to be referred to, it was found that the uterus was adherent above, by its fundal portion, so that it could not descend or contract without being torn away from its attachments to the intestines and omentum. Four days elapsed before the writer was again summoned. He then requested the assistance of a competent anæsthetist, so that a thorough examination might be made before delivery was effected. With the patient etherized and in the lithotomy position it was now ascertained that a firm mass, as large as the fist, had descended into the cul-de-sac and filled the vagina so effectually as to prevent normal delivery. It was evident that the use of the forceps would lead to the disorganization of this mass, neither could it be pushed above the presenting part of the child and out of the true pelvis. The nature of the case was explained to the family and a Cæsarean section advised as the best means to effect delivery, after which the conditions complicating parturition could be effectually dealt with. As soon as the patient could be prepared for the section, the abdomen was opened. When the uterus was lifted a large quantity of offensive pus was liberated from a point surrounded by the fundus, the adherent omentum, the liver, and the colon. In this collection of pus a hard fecal concretion was found 2 cm. long by 1 cm. wide.

Without disturbing the position of the fundus further, an incision was made through the uterine wall under continuous irrigation. The child was extracted and the cord cut between compression forceps, when it was given in charge of the patient's physician. The placenta was next extracted, the uterine cavity washed out, and the incision closed by three tiers of continuous catgut sutures. The diseased appendix, which had ruptured, and a diseased ovary and tube leading from the right side, were all removed. The left ovary and tube were not diseased. Passing the hand into the cul-de-sac

from this side, it was found to be filled with a coil of intestine having a long thickened mesentery and a mass of organized exudate about it, which occupied all the available space. This mass could now be lifted out, as the uterus had contracted, and the latter settled down into position against the sacrum. With a gauze mop, a thick layer of organized lymph was pushed off the side of the uterus where the abscess cavity had been located. A strip of gauze was passed into the cul de sac and another into the cæcal region and the parietal wound was then closed with silver wire sutures.

The patient's condition was unfavorable at the time of the operation. She was exhausted from the protracted labor of two weeks, the circulation was poor, the respiration and pulse rapid, and death ensued about eight hours after the operation. The child was poorly developed, but possessed of sufficient vitality to thrive nicely. Inquiring more particularly into the history of this case from her physician, Dr. Cornelius, it was ascertained that when gestation had progressed about two months, the patient had complained of severe pain extending from the waist line to the end of the spine, posteriorly, and spreading over the muscles of the back, accompanied by pain in the right inguinal region. This pain was more or less severe during eight and a half months, and she was believed to have been pregnant fully ten months before labor pains set in. There had been but little fever detected, but "chilly creeps" were complained of occasionally. Other prominent features of the case were—attacks of vomiting, recurring almost every week and lasting for a day or two, with a rapid pulse and respiration, inability to lie down without severe dyspnoea; but an enormous adipose development in all parts of the body was assigned as a cause for the latter condition, which also interfered very much with the employment of the usual diagnostic methods. There was either constipation or diarrhea, but generally the former.

In the history of this case at the time of parturition there was but little positive evidence of appendicinal disease, yet at the operation it was apparent that nothing but surgical intervention was called for from the first onset of labor-pains.

**Objections to Operative Treatment.—**Perhaps the first ob-

jection to the surgical treatment of appendicitis during gestation arises from the thought that premature delivery will be liable to ensue as a result of the operation. It can confidently be asserted, however, that the disease itself conduces to this result more than the operation.

All infectious diseases, such as variola, scarlet fever, malaria, typhoid fever, pneumonia, etc., tend to produce abortion, and appendicitis is no exception to the rule. In Vinay's thirty-two cases previously referred to abortion was noted in forty per cent. and in half (16) of the cases the children died.

This fatality is accounted for by the intimate vascular and lymphatic connection existing between the adnexa of the uterus and the appendix, and as there is, as has been noted, in many of these cases a defective development of the fetus, it is probable that direct infection takes place through the placenta.

Koenig, in summarizing the literature of appendicitis during gestation until September, 1899 (Medical Annual, 1901, page 452), found that in a total of nearly one hundred cases, pregnancy was terminated most frequently by miscarriage with a fetal mortality of over fifty per cent., probably due in most cases to direct intra-uterine infection of the fetus through the blood and lymph streams.

On the other hand, several cases have been reported in which operative treatment for appendicitis has been instituted without any interruption in the progress of pregnancy. Statistics show that but 2 1-2 per cent of those operated for the removal of ovarian tumors during early pregnancy abort (Medical Record, June 28, 1902, pp. 1063). It is therefore evident that surgical interference by abdominal section in the early stages of gestation is attended with less risk to both mother and child than reliance upon non-surgical treatment if cases do not respond to medical treatment promptly. The best treatment is that which will save both mother and child.

**Premature Delivery Not Called For.**—If from thirty to forty per cent. of the women who have suffered from appendicitis during pregnancy have aborted, and the mortality has ranged, from forty to fifty per cent., there can be no good reason ad-

vanced for the induction of premature delivery in the treatment of these cases.

Removal of Pus Accumulations.—In the later stages of gestation surgical treatment must generally be confined to the evacuation of pus accumulations. The operative area is restricted; diffuse septic peritonitis is readily induced by manipulation or handling of the intestines; irrigation is unreliable, as it does not cleanse the cavity effectually, because the abdominal viscera are compressed by the enlarged uterus; and septic germs multiply in the cavity. An inquisitive inspection may break down tender adhesions, which would otherwise shut out the general peritoneal cavity from the infected area. There is great danger from doing too much in such cases. If the appendix is not found, the surgeon should exercise self-restraint and prefer to operate again, under more favorable circumstances, rather than incur the risk of too much manipulation. No stiff drainage tubes should be used: a light packing with sterile gauze will answer a better purpose. After a few days hydrogen dioxide can be injected if the gauze does not drain satisfactorily, provided a free exit is secured. Every precaution should be taken to prevent the onset of labor until purulent accumulations have drained off, otherwise adhesions may be broken and septic peritonitis ensue. The preparatory treatment instituted by the nurse should be gentle and brief, as well as efficient. During the operation shock is to be guarded against in every way possible. The operation must be speedily performed. The limbs should be kept warm by having them incased in flannel or cotton wool; hot aseptic towels should be used to cover the abdomen. The operator will avoid draining through the vagina by opening the cul-de-sac, as infection is very liable to follow at parturition.

Dead Fetus Operations.—The time for the operative treatment of cases in which the fetus is supposed to be dead because of the absence of heart sounds and fetal movements can scarcely be a question for discussion, for the possibility of labor setting in soon after the death of the fetus makes it imperative that purulent collections should be removed before uterine contractions ensue.

\* The Diagnosis.—It is quite apparent that there may be

many difficulties encountered in the effort to reach a positive diagnosis of chronic suppurative appendicitis in pregnant women. The gravid uterus may exclude the indications usually obtained from palpation and percussion, and almost all of the usual signs of the disease may be attributed to pregnancy alone. These difficulties all increase after the fourth month. Before this time appendicitis may be mistaken for extra-uterine pregnancy, salpingitis, tubercular peritonitis, displaced kidney, ureteral calculus, hydronephrosis, fecal impaction, or typhoid fever. The difficulties encountered in distinguishing between the presence of gallstones and appendicitis should be referred to in this connection from the fact that gallstone trouble and appendicular disease frequently co-exist.

The following points should be considered in the effort to reach a diagnosis of this affection: The disease is more liable to be met with in early adult life than later, presumably because lymphoid tissue is most abundant from childhood up to the age of thirty years; and a damaged appendix is likely to do all the mischief it is capable of doing, at the first grave opportunity, which, in this case, is the first pregnancy. Nevertheless it may be possible for a chronic appendicitis to remain latent during the first pregnancy and become aggressive at a later pregnancy.

Recurrent attacks of vomiting are likely to be met with, and if there is a purulent collection, fever may be an accompaniment. These attacks of vomiting are often treated as unavoidable concomitants of pregnancy, especially if pregnant vomiting has been an early symptom of gestation; but pregnant vomiting is more continuous, has more continuous nausea, with, perhaps, abnormal craving. The vomiting of appendicitis recurring at intervals of several days or several weeks is often preceded by constipation and followed by diarrhea. Attacks of diarrhea, attended with localized pain and nausea, with more or less vomiting, and preceded by constipation occurring once in two or three weeks, should always attract attention to the appendicular region.

The pulse becomes rapid and jerky even in the absence of fever, and it is often an indication of the gravity of the case.

This sign is as important in pregnancy, as has been claimed by Shrady and Willy Meyer in non-pregnant cases.

While slight fever is likely to develop with attacks of vomiting and diarrhea, it may not reach a high point. In many instances it is not noticed by the patient or her attendant. Increase of temperature and pulse is due to ptomaine absorption, and is more likely to occur when there is ulceration of the mucous membrane or some peritoneal infection. Distinct chills are rarely met with, but chilly creeps suggest the presence of pus. Rapid breathing may be caused by pain or the presence of adhesions, which interfere with respiratory movements or free diaphragmatic action. The development of a sub-phrenic abscess is very liable to restrict respiratory action.

Whilst rigidity of the recti muscles favors the diagnosis of appendicitis in the early stage of pregnancy, we may not be able to place it in evidence, when the abdominal muscles are all distended by the gravid uterus, at the later stages. Circumscribed rigidity of the abdominal walls over the abscess may be frequently found. Tympanites is detected with difficulty.

Cyanosis of the abdominal walls will give rise to a serious prognosis, as it is the result of an apparent vaso-motor paralysis that portends a fatal termination in many instances.

Hyper leucocytosis is developed in consequence of pregnancy, especially after the third month, hence the blood count is not available for the diagnosis of pus accumulations in the later stages of pregnancy, but may be placed in evidence in the earlier stages.

The pain and tenderness of appendicitis in pregnancy cannot always be located at McBurney's point, but may be nearer the posterior aspect of the abdomen, especially after the sixth month of pregnancy, because of the displacement of the colon by the gravid uterus, which presses it against the parietes to the outside and posteriorly. Intermittent pain in this locality is less reliable as a diagnostic sign than continuous tenderness. Pain at the side of the gravid uterus at a point above the head of the colon may be due to a tubo-ovarian abscess, and the appendix may become adherent as a result of a pyosalpinx or tubo-ovarian inflammation; yet inflammation appears to travel

more frequently in the opposite direction, from the appendix to the ovary.

Sudden pain at a point over the cæcum, attacks of vomiting and diarrhea, persistent localized tenderness are all important signs. As nausea is a reflex symptom, it may be present in mild cases and absent in severe ones. (Barbat).

Relief from pain affords no evidence of improvement in these cases; it may be due to the rupture of purulent collections into the peritoneal cavity or to gangrene of the appendix, which may lead to general septic peritonitis.

If the patient suffers from pain in the right lumbar region from brisk walking or rough riding, without much rise in temperature or pulse, it is usually due to the fact that the damaged appendix lies within the range of action of the psoas muscle.

Percussion may furnish but little evidence of diagnostic value. The colon may be loaded and give off a dull percussion sound, the same as an abscess accumulation—or such an accumulation may be pushed to one side by the gravid uterus, leaving the resonant colon firmly pressed against the walls of the abdomen to the outside or posteriorly. While percussion and palpation are of little value to us in locating abscess accumulations, it is well to remember that these accumulations may be expected in some localities more than in others; as, for instance, the ileo-caecal fossa is one of the most frequent sites for pus accumulations. If the appendix is long, accumulations may form behind the colon, reaching toward the right kidney, the duodenum, and the hepatic pouch. Dullness upon percussion in the flank may be in evidence here, but absence of an area of dullness on the right side posteriorly due to the presence of a resonant colon, should not mislead us.

In about twenty-three per cent. of the cases the abscess is located back of the colon. If the appendix lies above the mesentery of the ilium and internal to the inner layer of the meso-colon, the abscess will be located close to the wall of the gravid uterus, as was noticed in the case reported. When the appendix crosses the pelvis pus may accumulate in the pouch of Douglas. For obvious reasons the presence of pus

is not likely to form a tumor-like protrusion in the abdominal wall during gestation.

**Operative Technique.**—Attention should be called to the importance of splitting muscles rather than cutting them in the operation to reach pus accumulations during gestation, also to the importance of guarding against the incision of important nerves, which would lead to atrophy of muscular tissue and consequent weakness of the abdominal parieties.

Care must be taken to approximate tissue to tissue, in closing the wound, as the development of scar-tissue is to be guarded against as much as possible.

Attention having already been called to the importance of a brief operation, in order to avoid shock and prevent the onset of labor, we must emphasize the fact that the surgeon should be content with the liberation of pus in the later stages of gestation. Ruptured abscess cases are especially serious. An operation may prove of no avail. We make no mistake when we reach a grave prognosis in such cases, and as surgeons we may be compelled to stand aside and let our medical allies wage the unequal warfare with general septic infection under conditions which can only be palliated, until death closes the history of the case.



## PERINEAL LACERATIONS, REGARDING POSTERIOR POSITIONS.

BY C. C. MEADE, M. D.

Every physician who has had any amount of experience does realize the serious results of a lacerated perineum; he also is aware of the fact that the great percentage of these cases have their origin in a posterior delivery. If you consider this assertion too broad, I will put it in another way. A large percentage of perineal lacerations can be prevented if precautions, knowledge, and care of existing conditions are strictly observed. Consequently I take the liberty to reassert that a large percentage of perineal lacerations find their true and unavoidable cause following posterior positions.

I hope you will not think my preface one of a long-drawn-out character; I believe it to be the most important, if not the most interesting, part of my paper. The students who graduate from our colleges to-day should be taught, second to normal conditions, how to diagnose and how to conduct posterior positions to a safe delivery to both mother and child. I assure you the old adage—"An ounce of prevention is better than a pound of cure"—is applicable in these cases, for I must strongly impress in this case it is most all in prevention and but little in cure, as it is impossible to expect anything but a laceration of the second or third degree under the care of the most skillful accoucheur unless there should exist a favorable disproportion between fetal cranium and pelvis of the mother.

Prevention.—The standard bearer in this case has a magnanimous history, growing out of mental, moral, and physical culture, and the physician is the one who occupies the position and who should have the faculty to present a method of prevention. Under the best of conditions the process is a most tedious one, and probably the results are almost nothing during the first generation of its administration, but the second, third, and future generations will show improvement in the way of development, and though the process is a long one it will lead directly to this subject in which we are so intensely interested to-day.

How strongly are inherited tendencies observed by those of us who give time and study to observation! If the unborn were conceived under one or all of a mental, moral, or physical abnormality, an abnormal product is most surely to be the result. Evil-minded parents, such as murderers, criminals, and drunkards, bear monstrosities in which we observe disproportionate conditions and relations during parturition. Neurotic and emotional parents have their procreative powers so debilitated that an arrest in intra-uterine life of one organ and an over-development of another is more often the rule than the exception. Syphilitic parents bear rachitic children, and tuberculous parents bear scrofulous children, etc. Visit our almshouses and children's institutions, such as reformatories, orphanages, and idiot asylums, obtain some history of inmates, trace them back if possible to the third, fourth, and fifth generations, see how woe has generated woe, crime begotten crime, and disease begotten disease. This will illustrate what we will be able to do for future generations. We will do nothing for the past, and but little for the present; the past will assist us, if we note the stones over which they have stumbled, to better direct the future. The physician should be the teacher of the parents, and the parents the teacher of their children.

There is no better teacher than the physician who stands guard at the gateway of life and watches with painful interest through the throes and pangs of motherhood the ushering in of the many deformed children who, thus burdened, are nervous wrecks, setting up in the business of life bankrupt, and laden with debts which they perforce must pay.

There is none better than the physician who can send out the warning cry of precaution and demand the attention of those to whom these fallacies are due, or who can better point out the possibilities within the reach of all parents of endowing their children richly or of robbing them of their birthright, the right to be well born.

Can anyone better than the physician repeat the fearful text, "The sins of the father shall be visited upon his children unto the third and fourth generations," and demonstrate by means of repeated object-lessons of specifically diseased chil-

dren who have gotten from their parents a heritage of woe, which they in turn transmit to generations to come? It has been said, "To reform a man, begin with his grandfather," and here the physician can teach the diseases of heredity with a fullness of meaning. Learning the history of the patient, he can say, "You undoubtedly inherited this or that from your parents; take care, and you need not transmit it to your children; they have enough from generations behind."

Childbirth must be preceded by dilatation of the parturient canal, and the rule established by old-time accoucheurs—let nature take its course—to a prudent limit is a good one, and with this ancient expression I would associate the value of non-interference in connection with normal labors. Many lacerations result from normal labor in which the attendant knew not the value of this wonderful adjunct of parturition. I admit it is the exception that a mature child is born without more or less laceration occurring in the perineum or some of the soft parts of the vaginal walls, and these injuries are usually in direct proportion to the resistance which the soft parts afford to the passage of the fetus. They are fewer in number and less in extent in normal labor, and are as a rule greater in primiparæ than in multiparæ. They are also greater in deformities, malpositions, and in disproportions between fetal parts and parts of the mother.

For practical purposes perineal lacerations are divided into first, second, and third degree, according to their extent. When any portion to one-half of the perineum is ruptured it is of the first degree. When torn to the sphincter muscle it is of the second degree. When the entire tissue is torn, including the sphincter, into the rectum, it is a laceration of the third degree.

It is necessary to know what fetal cranial diameters must come in contact with and pass through their respective pelvic diameters in different positions and presentations in labor. In occip. ant. positions, the cervico-breg. diameter of the fetal cranium, which is  $3\frac{3}{4}$  inches, is brought in apposition with the ant. post. of the pelvis, which is  $4\frac{1}{2}$  inches. The biparietal diameter of the head, which is  $3\frac{1}{2}$  inches, is found in apposition with the transverse diameter of pelvis, which is nearly 5 inches in length. Consequently a difference of three-

fourths of inch permits a normal, easy birth if other conditions are favorable.

In post. positions we find an inverse condition of lengths of diameters. The occip. front. and the occip. ment., which diameters are  $4\frac{3}{4}$  and  $5\frac{1}{4}$  inches respectively, are found in apposition with the ant. post. diameter of the pelvis, which is, as before mentioned,  $4\frac{1}{2}$  inches in diameter. This necessitates tedious labor, extreme exhaustion on the part of the mother, molding of the head of fetus, loss of child by asphyxiation, and ultimate instrumental delivery with laceration of second or third degree, and invalidism upon the suffering mother until the injury is successfully repaired, which should never be neglected.

Thanks to nature, many post. positions correct themselves, and also, thanks to progress in medical science and literature, they may all be corrected if the attendant arrives before engagement has occurred. In the majority of these cases obliquity of the uterus and incomplete flexion of the child's head are the cause of post. positions. Correct the former by means of pad, bandage, and position of the parturient mother. The latter by vaginal digitation and supra-pubic pressure, maintain the same until progress in labor makes a permanent anterior position. If you do not succeed in converting post. to ant. positions, perform version, thereby succeeding in changing the head diameters, compelling the shorter diameters of cranium to oppose the shorter diameters of the pelvis, and though the head be abnormally large, it passes through the parturient canal much more easily following than preceding the trunk of the child.

One word in regard to breech positions and presentations. Strictly adhere to the practice of non-interference; you will preserve the perineum and save the life of many a child which is otherwise sacrificed. If the pelvis is small and the lower extremities do not extend, introduce an aseptic hand, gently bring down the feet to outlet by means of little traction, and allow nature to complete the delivery. Nature preserves complete flexion of the head keeps the arms in contact with the sides of the child, avoiding increased diameters of parts passing through the pelvis. Traction on the part of the attendant pro-

duces extension of the head, the same of the arms upon the head, with injury to the mother and death of the child by locking and hanging in the pelvis.

Protracted labor will make the perineum dry and oedematous, which frustrates the effort of the obstetrician to avoid a rupture. I would much prefer a rapid labor from beginning through the successive stages—flexion, descent, int. rotation—to extension and slow from the beginning of this stage until the child is practically born, giving time for the head and shoulders to pass through the soft parts, than to have labor passing through the 1, 2, 3 movements, slowly followed by a rapid process in extension and on to birth. In other words, if labor *must* be protracted, let us have a large portion of time spent in last stages; if it *must* be rapid, hasten the first movements and prolong the latter movements, thereby preserving the perineum; it being the foundation upon which the pelvic floor rests; if this support be removed sooner or later, if from no other cause, from gravity alone, we will see a displacement of all the organs in the pelvic cavity.

The attitude assumed by a mother in confinement must be regulated according to the stage of labor which she is undergoing. If the head does not readily engage, position varying from flexion of knees upon the abdomen to Walcher's position will no doubt be helpful; but this position must not be indulged at the close of the second stage of labor.

To satisfy ourselves by actual demonstration, let us observe the effects of high flexion and extension upon the perineum. When the thighs are sharply flexed upon the abdomen we note the skin over the area between the post. commissure and the anus becomes drawn tightly to both sides, putting it on the stretch, thus preventing normal bulging of the perineum in the outer direction of carus curve. We also note that full extension of the soft parts, which allows the oc. protuberance of child's head to pass just beneath the sub-pubic arch, before the eyebrows crown the perineum, gives the shortest diameter attainable for the passage of the head. Let us further observe the effect of complete ex. We see the skin relaxed and the greatest possible latitude for perineal extension attained. Now make another test by applying the forceps when the head is

above the lower plane of the pelvis, putting the limbs through the same movements; hold the forceps still and in the proper position for traction at a given plane, the posterior commissure will both be seen and felt to be put on the stretch, in flexion, with added danger to the perineum by the shafts of the forceps, and in extension the reverse is true. The attitude of extension or Sims' position gives great relief and lessens the risk of laceration in this stage of labor.

A few months ago a lady came to my office; age about thirty; the mother of two children, the older four and the younger one about a year and one-half. She said she had not been well since her second child was born. On inquiry in regard to this birth I thought at the time I was getting the history of a posterior position with a forceps delivery, from the amount of traction and the length of time required to deliver; also her train of after-symptoms seemed to confirm my diagnosis. Upon examination my index finger entered the rectum instead of the vagina. On inspection I found the posterior wall of the vagina torn completely through the sphincter ani; it had healed, leaving a contracted cicatricial tissue on either side, with the rectum gaping almost two inches, with faeces remaining after each stool in both vagina and rectum. Fortunately involution had been pretty thoroughly accomplished after her confinement, which had delayed and decreased her sufferings, that surely follow this loss of tissue normally supporting the pelvic organs. Her attending physician said nothing about her being torn, and of course did nothing in the way of repair. No one believes more in leniency to our colleagues than I, but had I the convicting power in such cases I should convict of criminal negligence or ignorance, as it might be, when such cases are allowed to pass into convalescence unnoticed.

Some authors tell us the use of fresh lard to the vagina prevents laceration of the soft parts; some tell us the use of vaseline, lanoline, or some of the oils will prevent laceration if applied daily to the perineum for several weeks before birth, with massage to the inner walls of the vagina and the outer walls of the perineum. Some advocate sitz baths, and some hot-water injections during labor to render the perineum elastic.

Episiotomy has been and is to-day practiced by some obstetricians to prevent laceration of the perineum. I look upon it with about as much favor as I do vaccination to prevent smallpox. The rent in the vulvo-vaginal ring made by the bistoury may become a nucleus of infection, and there are as many surprises in the practice of obstetrics as in other departments of medicine; if we refrain from this performance the soft parts may escape serious injury, against our better judgment.

In conclusion, the obstetrician must teach the parents of this generation the benefit of mental, moral, and physical culture; the parents must pass the word along from generation to generation; in this manner these abnormal conditions of heredity can be corrected, relieving the parturient canal of abnormalities, and the product of conception of deformities, which will, with the proper amount of care and judgment, prevent injuries to perineal tissue at birth. This requires a careful study of the anatomy of the fetus and the pelvis of the mother, also a thorough study of mechanism of labor, including muscular force and muscular resistance of the parts involved. Thus long diameters of the presenting fetal parts coming in contact with the short diameters of the pelvic parts of the mother can be avoided. The direction in which traction should be made in forceps delivery should be noted, avoiding rupture of the post-mucous surface of the vagina with point of instruments, and removing the forceps before the head passes through the vulvo-vaginal ring. In no case allow a posterior position to be delivered as such, for it involves a mechanical impossibility, and in all cases of slow and deliberate labors respect the value of non-interference. Our results will then be a large decrease in the amount of work coming under the head of gynecological surgery, relief of the dreadful odium of child-bearing to mothers, and creation of a permanent stepping-stone in the progress and the science of medicine.

Supplementary to the paragraph relating to abnormal conditions of procreative powers of parents; murder has its positive effect; crime in a general way its comparative effect, and drunkenness its superlative effect. Is there a rational man or woman who does not admit idiocy begets idiocy? Is a father

or a mother anything less than a lunatic or a maniac when under the influence of alcohol?

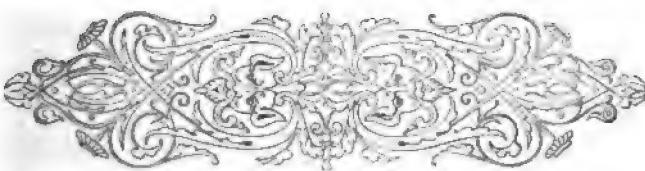
Many a mother has conceived while one or the other or both parents are intoxicated, and what is to be expected from such a conception but an idiot or a monstrosity? Imagine the condition of the elements of reproduction at time of conception under such circumstances.

A father, a habitual drinker, frequently indulging in periodical debauches, so poisons the protoplasm of his cellular-tissue system that nothing can develop from such material but an abnormal product.

A wife receives her husband who is under the influence of liquor; her conditions are that of timidity, fear, disgrace, and humiliation; his, of a low, base, and brutal character; thus contact of the male and female pronucleus under such a circumstance creates a conception in chaos. The male element influences an abnormal growth, while the female element is like the mother has been, under restraint. This product has its origin in a disturbed equilibrium; it progresses from stage to stage in discontent and confusion, one organ obtaining an overdevelopment, while another is arrested in its growth, and if carried to term an idiot or a monstrosity is the result. Those of you who know anything of rural communities will concur with me that in nearly every small town or village there resides one or more boy or girl who is insane, silly, or at least an imbecile, and upon investigation the origin of this peculiarity is traced to alcoholism, a habit of the victim's parents, or to a closely allied previous generation. Let us make another observation. Suppose this child, instead of being born an idiot, had a reasonable amount or any amount of mental and physical faculties. The use of alcohol often makes a pauper father, likewise a pauper family; the child's physical powers are weakened and so are his mental forces, by being poorly nourished and poorly protected in other directions; lowly bred society seeks him, he hasn't the talent to seek anything better; he seems to know his station, and has no idea of development or culture; if by chance he, during the stage of adolescence, is robust and strong and possessing mental and physical powers of a crude, uncouth nature; he has a great amount

of vitality and energy which means much for good or evil, and in some way he becomes aware of the fact that he is able to shape his future course in life; it is at this point that energy must be directed, and by this direction results are reaped. Which are we to expect, a development in a proper or an improper channel? From the example before him, reared in an atmosphere polluted and contaminated with all that is low, vile, and wicked, we expect him, instead of elevating himself, to retrograde and acquire an existence more base than his parents.

In one instance it is a case of energy wrongly directed. In another it is one of nothing coming from little, little coming from nothing, or nothing coming from nothing—a natural development from that great curse upon mankind, alcoholism.



## CHILDHOOD.\*

BY DR. WM. H. HANCHETT.

Childhood in its morning brings with it such possibilities that we look upon it as the seed-time of a harvest which may ripen into a future of health and happiness. The expectant and anxious mother asks the physician the moment a little body has been brought into the world, "Is it well with the child?" "Is my baby perfect?" If by the baby's lusty cry and the look upon the physician's face and his kind answer in the affirmative she is assured that all is well, she is indeed happy, and she may well be happy.

A sound body is necessary to a sound mind. Every child should have a fair chance in the world; the perils that beset his pathway are all too numerous. Almost from the moment he arrives he becomes the prey of disease. It is right here where the true family physician begins to play his part in the lottery of the life of this little one. The multitudinous questions that arise regarding the well-being of this child form an endless chain. First the bath; then the clothing; then the food. Even these simple matters may become complexed and a mistake in any one may cost the little stranger his health, if not his life. Under favorable conditions and with a good nurse these matters give us very little trouble; but where there is no nurse, or what is worse, a poor nurse, the physician's hands are completely tied, and he must bring to bear from the storehouse of his resources good judgment and almost omniscience. It will not do for him to become dignified and announce that he is not a nurse; too often he and the mother form the reception committee when the little one comes. Recently a pompous physician said to me that he would not attend a confinement case for which he had not been engaged, where he could not have his sheets sterilized and everything surrounding the confinement bed in a perfect aseptic condition. The absurdity of such a statement is patent to everyone. The child may be a weakling, and it may require the careful judgment of the physician to know when

\* Read before the Nebraska Homeopathic State Medical Society.

to give the bath. Many a newborn baby has been plunged into a bath whose temperature has given the fatal chill, or which has brought on the bronchitis from which the child suffers for many years. In truth the question of bath is a big one, and should be thoroughly discussed. It would seem hardly necessary to say to a body of doctors that the child's mouth and eyes should be cleaned immediately, and yet many a child has had a serious ophthalmia resultant from the neglect of proper immediate attention. Any specialist can tell you of such cases, not so very rare. Examine the baby's eyes, then, as soon as you see the lungs to be properly inflated and normal respiration established. Allow no poisonous substance to remain in or accumulate about the eyes.

It would seem hardly necessary to say anything about looking into the baby's mouth to ascertain that that too is thoroughly cleansed, and yet the tender bronchi have been poisoned many a time by such careless neglect in cleansing the mouth. It should be remembered that these little lungs, just opened, should breathe pure fresh warm air and nothing else.

On these matters, trivial though they seem, the whole future of the child may depend. The child should have fair play; he should be allowed to see and to breathe.

Now a word regarding the general bath. It is safe to say that in the majority of cases it is best to give a gentle oil bath instead of water. For a few days the oil sponging cleanses sufficiently and prepares the skin for the water bath later on. It is not necessary to dwell here on the incubator or the cotton pack which very delicate babies require. These, I know from personal experience, are invaluable. Simple, soft, and warm should be the clothing of the new baby. The doctor does not always have an opportunity to advise regarding the baby's clothing, but he should make an opportunity and insist that an elaborate wardrobe is more than nonsense, and brings only cruelty to the baby and all parties concerned. I have no patience with the mother who sits at a machine and stitches long yards of lace and embroidery on a skirt two yards long for a baby who may measure twelve or fourteen inches perhaps. Pins and buttons should have no part to play

in the baby's wardrobe. If the mother does not know of the Gertrude or some such suit, tell her of it. Dress reform is as necessary for the baby as for the mother, and means much to either. The main question is that the child should have clothing that will allow each function of the body perfect play.

Each doctor has his own experience with feeding the baby. There seems to be a universally insane idea that the baby must have a square meal immediately upon his arrival; mother and nurse are usually united upon this point of hospitality, and the physician has a hard time to convince them that a baby should not establish the eating habit for at least twenty-four hours. The colicky, cross baby is very often the one who is fed too early, and is apt to become a victim of all kinds of doping. The proper care of the baby, the establishment of habits for the baby during the first two or three days, means the comfort or discomfort of all concerned for as many months.

The unnaturalness of a woman who does not want to nurse her baby would be pitiful, if it were not provoking, and yet conscientious doctors are constantly doing battle that the baby may have its natural food.

The alarming mortality of children in their first or second summer is largely due to the mothers who could not or would not nurse their babies. "Bottle-fed" should be the answer to the question "Cause of death?" on a large percentage of the death certificates for children under two years. I will make that statement stronger, it might answer the same question in many cases for children all through childhood where we write marasmus, scarlet fever, diphtheria, measles, etc. Insist upon the child's having good natural mother's milk. I say, insist on this if possible. I would rather have poor mother's milk for a baby than any artificial food in the market. All artificial foods are modifications of mother's milk, and are usually a very poor substitute. Nature knew what she was about when she made the mammary gland and lacteals. However, there are conditions which we have to meet where the mother cannot nurse the child, and the artificial food must be used. With the large number of neurasthenics and the American disease ever on the increase among the

women of this country, we are forced to supply a substitute for the normal food. Under these increasing conditions someone has been forced to cry out, "The American mother may bear poets and statesmen, but she cannot nurse them." Then comes the question, "What shall the substitute be?" After experimenting for more than twenty years with baby foods alone, I have about settled upon two for the average cases: Malted milk and condensed milk. For the baby with the constipation habit, malted milk; for the baby whose bowels are naturally loose, condensed milk. Bottle-fed babies usually have one or the other of these habits, and will thrive best on these foods as indicated above. Other manifold brands may be adopted to individual cases; but I make the statement that the two foods which I have named will best meet the average need. I always try them carefully and thoroughly before experimenting with other foods. But babyhood is not the end of child life. After the baby has run the gauntlet of the incidents and accidents of infancy, it is a long road to youth; physicians need to do much reading and much more thinking while dealing with these little people. It is in his understanding of child-life that he largely makes his reputation. He must be naturally gentle; no assumed gentleness and forced smile deceives a child for one minute. You may fool the mother, but never the children. You must be quick of instinct to perceive what the child means, to read the child instantly. Be assured the child is reading you instantly, and what is more, accurately.

More than all, he must be sympathetic, and be in touch with the vibrations of child-nature. It is useless to say to a child, "poor little fellow" if you do not feel "poor little fellow." He knows how you feel. If you have not this in your nature, by all that is holy do not dare to print on your card "Diseases of children a Specialty." Poets and painters have given the best efforts of their lives to these little ones, and the great Master said that they should not be forbidden to come unto him, for of such is heaven's kingdom.

Be sympathetic and loving with children; their nervous little souls and bodies need kindness as well as chamomilla or pulsatilla.

Do you realize how the mother depends upon you; how she weighs every word that drops from your lips; how she quotes you as absolute authority? Your place with her is located by the attitude of her children toward you, and many times it is the strong chord of a child's affection for you which binds you to the family.

How many physicians here know what the kindergarten means; how many know who Froebel was, and what were the ideas he promulgated; how many know what they are advising when they tell a mother to send her child to the kindergarten?

How many doctors know the machinery of the grades and its effect on the nervous system of the child, the multitudinous examinations, and the mad scramble after marks. How many practice the principle that we all preach, that a sound body is necessary to mind development, and insist that the precocious child shall be taken away from this nervous strain and given a chance to gain physically. The demand for athletics all over this country shows that there is need for physical development, and that we as a people are growing physically weak, while perhaps we are growing strong in a certain kind of mentality. Every school board should be dominated by wise physicians instead of so-called pedagogics.

My plea then to the physician is the complete understanding of the child and its natural development, physically and mentally. The place which the physician occupies is that of parent and teacher. From his advice their is no appeal, and under those circumstances a lack of knowledge on his part is criminal.

## ELECTRICITY'S FIELD IN OBSTETRICS.\*

BY L. E. WHITNEY, M. D.

In this electric age mankind has become accustomed to seeing that mysterious, subtle, invisible force; that penetrating, permeating, omnipresent, and well-nigh omnipotent something which we call electricity, constantly, rapidly advancing and broadening the scope of its usefulness, each year aggressively occupying new positions, each day infolding in its secure embrace new and diversified utilities. An element which a short half-century ago was practically unknown, save for the mere fact of its existence, is not only in constant use, but is to-day regarded as a necessity in nearly all branches of the world's commerce, arts, and science.

As we have watched this phenomenal and unprecedented conquest and vainly endeavored to in some measure keep in sight of its onward march, we have noted its successful contending for a place in the healing art, and not content with simply becoming enshrined there, have seen it gently but firmly crowd aside the surgeon's knife, supplant or supplement the time-honored and authorized methods of the gynecologist, wrestle for supremacy along many lines as a therapeutic agent, and reclaim, from the list of the hopeless, many conditions and diseases otherwise classed as incurable.

As one recalls this unprecedented conquest, and the unanimity with which the doors of one specialty after another have been opened to it, he can no longer find reason for being surprised at seeing it enter any new domain, or lay claim to any unoccupied territory.

The special field of the obstetrician has not heretofore been regarded as a fertile one for the operation of this agent, nor has it yet become so firmly intrenched there as to be regarded by many as a necessity. However, those best acquainted with its diversified capabilities, and most experienced in its employment, find among the varied disorders incident to gestation and parturition many conditions in which electricity holds a position of unquestioned pre-eminence.

\* Read before the Missouri Institute of Homeopathy, at St. Louis.

During the early months of pregnancy none needs to be reminded that nausea and vomiting are frequently an exceedingly obstinate accompaniment, often taxing the ability of the most resourceful physician. Relative to this disorder, Dr. W. H. King says that "It is a very gratifying fact that some of the most obstinate cases of nausea and vomiting during pregnancy, and those that resist every other form of treatment, will yield readily to electricity."

The method of using it is to place a positive electrode on the nape of the neck, or better still, at either side of it, while a large negative one is applied to the epigastrium. In some cases the galvanic current is preferable, while in others the faradic yields better results. From fifteen to twenty milliamperes of the former, or a perceptible current of the latter should be given for fifteen minutes, morning and evening, until a perceptible improvement is manifest, then at longer intervals. Care should be taken when using the faradic current, that the epigastric electrode is in proper place, for should it be misplaced, or slide down over the abdomen, the result might be disastrous to the fetus.

Ectopic gestation, one of the most unfortunate and perilous abnormalities of pregnancy, the treatment of which by other measures involves a dangerous operation, has in electricity, if recognized before rupture has taken place, or prior to the fourth month, a safe and effective remedy. By no means the least to be said in its favor, when under consideration as a remedy for a condition the diagnosis of which is often enshrouded in so much uncertainty, is that if an error has been made, the treatment adds nothing to the hazard, as it is absolutely harmless. Then when one considers the phenomenal success of this treatment, as attested by Dr. Abram Brothers, who reports seventy-eight cases as treated, with but a single death, and also the many successful cases recorded by various other physicians, it looks as though there was small probability of a better method soon being found.

Both galvanic and faradic currents have been used as the destroying agent, and both have their advocates. But as the galvanic is less likely to cause rupture of the sac, and is none the less effective, it seems to be growing in favor. A current

gradually increased from fifty to one hundred and fifty milliamperes should be passed directly through the tumor from a ball electrode against it in the vagina, to a large indifferent pad on the abdomen. Upon reaching the maximum amperage desired, the current should be as gradually reduced to zero, the polarity reversed, and the current again increased as before. This should be repeated several times at each treatment, which should cover about ten minutes, and be given each day until death of the embryo is indicated by perceptible shrinkage of the tumor. Whichever current has been used up to this time, the negative galvanic should now be employed for the purpose of causing the absorption of the débris. It should be applied to the tumor in the vagina, and given at from thirty-five to fifty milliamperes for fifteen minutes daily, or at longer intervals, as long as required.

It is sometimes necessary to produce an abortion. In such cases electricity without question affords the best means available, as its results are certain, and it can usually be depended upon to expel the embryo with membranes complete. A goldsphon or similar intra-uterine electrode should be carefully introduced into the uterus, and connected with the negative galvanic pole, while over the abdomen is placed a large positive pad. Fifty or sixty milliamperes is used for ten minutes daily, for two or three days. A bipolar intra-uterine electrode is then substituted, and a coarse wire or interrupted faradic current as strong as can be borne should be used for fifteen minutes for the purpose of establishing expulsive contractions.

In case of accidental death and retention of the fetus, the development of a mole, or the retention of the secundines after abortion or miscarriage, the bipolar faradic current, used as described above, will usually be all that is needed to effect a speedy expulsion.

In anæmia, hysteria, chorea, paralysis, and other conditions of the pregnant, indicating a lack of proper nutrition, lowered vitality, or deficient nerve action, the tonic and restorative power of static electricity will in a majority of cases afford relief beyond that to be expected from any other source. Even in the albuminuria of pregnancy static electricity ought

to be curative, as it has the cure of a number of well-authenticated cases of Bright's disease to its credit. It should be used as a static head breeze, brush, or wave current to the spine, or positive insulation, as the peculiarities of the case may indicate.

For pain in the side, so frequently an annoying accompaniment of the latter months of pregnancy, nothing can be found to equal the static wave current, applied directly to the seat of the trouble.

In insomnia a twenty minutes' static head breeze in the evening almost invariably insures a night of refreshing sleep, and if repeated every other day, a very few applications only are necessary to bring permanent relief.

During the process of labor electricity has not figured prominently; however, it has long been recognized as a remedy of great value in uterine inertia. In this condition it is claimed that it not only increases the expulsive effort, but as well renders the pains much more endurable and less acute. The coarse wire faradic is the current to be used, and should be applied either through large electrodes applied to either side of the abdomen, about even with the umbilicus, or by means of a bipolar electrode in the vagina, the current being turned on simultaneously with the appearance of the expulsive efforts.

No other treatment is so rational in post-partum hemorrhage as that of contracting the muscular fibers of the uterus by means of the faradic current. True, it takes a little time to get the apparatus in readiness (and often in such cases there is no time to spare); however, by employing the bipolar intra-uterine electrode and a dry-cell battery the time consumed in preparation is reduced to a minimum, and once the electrode is in place and the current turned on, the patient is safe. The application should be used with intermediate interruptions, but continued until contraction is firm and permanent.

In caring for the various abnormal conditions of the breasts which frequently follow parturition, we still find electricity a useful agent. It is the galvanic current that is usually of service here, and it should be applied from an active pad electrode of sufficient size to cover the entire breast, or such part of it

as is involved in the trouble, to a larger indifferent pad upon the back.

In mastitis the positive pole should be applied to the inflamed area, using fifteen milliamperes for ten or fifteen minutes morning and evening. By saturating the active positive electrode with a solution of aconite, belladonna, phytolacca, or such other remedy as may be indicated, the added virtue of direct medication by cataphoresis becomes available.

In case it is desired to suppress the secretion, the same treatment may be pursued, except that should such remedies as belladonna, hamamelis, or ergot be used cataphorically, they must necessarily be employed of sufficient strength to produce their physiological effect.

On the other hand, should the lacteal secretion be deficient, the stimulating negative pole should be substituted as the active one, over the tardily acting gland, while the positive one is applied to the spine.

Finally, the virtue of faradic electricity in post-puerperal subinvolution, and of negative galvanism in the areolar hyperplaseæ resulting therefrom, are already too universally recognized to warrant more than a passing mention.



## LEUCORRHœA IN PREGNANCY.\*

BY D. C. KLINE, M. D.

This is not altogether an agreeable subject to the physician, but the disease, or symptom, if you please is much less agreeable to the patient or pregnant woman.

Leucorrhœa in pregnant women is seldom given the careful consideration or treatment it should receive; hence a brief consideration of it, with perhaps some discussion, may be the means of leading up to regard it with more concern in the future.

How seldom does the patient come to us with this line of troubles, and yet how frequently do we find, upon making an examination of our patient just prior to or at time of labor, that she is having a decidedly ugly yellow or green, stringy, ropy, or watery discharge, with fetid odor maybe, which has been debilitating and weakening our patient, causing a series of annoying symptoms.

The woman has been living under the impression that this leucorrhœa is a matter of small moment, or an unavoidable condition, and hence says nothing of the trouble.

The slight increase of the vaginal secretion during pregnancy is not to be considered as abnormal; but it is those excessive vaginal discharges, usually appearing the later half of the nine months, that we wish especially to call attention to.

The moderate degree of leucorrhœa may at times require treatment, owing to the excoriations and intense itching or burning about the vulvar orifices, caused by the acidity of the discharges, but these conditions do not manifest any marked constitutional effects.

These vulvar disturbances may usually be relieved by local treatment, as they are oftentimes occasioned principally by a highly sensitive cuticle, some people being similar in this respect to what the old farmer meant when he said of his horse, "Doddy, you see, she's kinder thin-skinned like."

Many times during the excessive discharges we find

\* Read before the Pennsylvania State Society, September 23, 1902.

numerous granulations covering the vaginal mucous membrane, and sometimes numerous ulcerations cover the cervix uteri. Here, then, we will have conditions which are apt to produce more or less numerous constitutional symptoms, at times the reflex symptoms are quite marked, causing gastralgia, or a line of gastric symptoms with a febrile condition.

The vaginitis in pregnant women in appearance and symptoms resembles many times to a considerable extent stomatitis in children.

Vaginal leucorrhœa in pregnancy is of course many times of gonorrhœal origin. This is usually exceedingly difficult to determine, unless you have a reliable history of the case, which is indeed rare. In the latter disease, however, the discharge is apt to be more profuse, more decidedly purulent and irritating, and the vulvo-vaginal glands and urethra are likely to be involved. If, however, you are able to detect the gonococcus in the discharge, there is left no room for doubt. Should gonorrhœal infection be at all probable, more severe local as well as constitutional treatment must be instituted to, if possible, favor a normal puerperium and prevent ophthalmia neonatorum.

This leucorrhœal discharge in other instances may come from the uterus—due to the inflammatory condition or endometritis. This may be acute in character, or due to an old-standing endometritis, occasioned perhaps by a catarrhal endometritis or of gonorrhœal or syphilitic origin.

In this catarrhal endometritis we may occasionally have a profuse secretion of thin, watery mucus collecting, which may suddenly be expelled during the latter months of pregnancy in gushes—without any ill effect upon the course of pregnancy. This may continue at intervals or constantly.

Again, we may have a rupture or perforation of the amnion and discharge of amniotic fluid at a point removed from the final seat of rupture over the os internum. If the endometritis which occasions the leucorrhœa be of gonorrhœal or syphilitic origin, there may be a more pus-like discharge, with some systemic symptoms. Here the treatment should be prompt—fearful that the gonococci pass through the tubes and lead to salpingitis with a long line of ills. All these inflammatory

conditions of the uterus should be regarded as decidedly unfavorable to the fetus and by no means desirable or beneficial for the mother. Many of these conditions will not be completely overcome until the uterus is emptied but, by judicious treatment they may be materially lessened, and where the disease is at all exaggerated or severe the treatment must be continued for an indefinite period after labor has been accomplished.

It is not at all unlikely that in at least occasional instances a decided leucorrhœa is brought about by women attempting to produce miscarriage upon themselves, or by the clumsy assistance of some unintelligent manipulator—particularly where an attempt is made to enter the uterus by means of a dirty instrument or wire. Here we are liable to have set up some form of inflammation—as cervicitis, endometritis, or perhaps a vaginitis by a strong vaginal application. This habit of attempting to produce abortion or miscarriage is not only followed up by the poorer class of women, but we doubtless all recognize the fact that our better and more intelligent people are equally prone to this line of transgression.

Treatment.—Our first effort should be to ascertain the origin and cause of the leucorrhœa and direct all treatment accordingly, and in general careful homeopathic prescribing is our first and most important means of relief; indeed in many instances this is the only thing needful. It would seem scarcely proper in this brief paper to enumerate remedies with indications, but I cannot forego the privilege of mentioning a few that have proven highly serviceable with me.

China ars 3x.—General malaise, perhaps some malaria taint; patient anaemic, marked thirst, heaviness in head and pelvis; dark yellowish or purulent matter streaked with blood; burning itching and corroding of the parts.

Kreosote 3x.—Ugly yellowish fetid discharge; stains the linen, which is difficult to remove.

Pulsatilla.—Patient nervous and tearful; thin, milky, and acrid discharge.

Sepia.—Frequent urination; itching of genitals; pressure and bearing down in pelvis.

Mercurius.—Smarting, burning, and itching; feeling of

rawness; gastric symptoms; pain and heaviness in region of liver. Leucorrhœa always worse at night.

Calc. carb.—Mucous or milky discharge; pale face, weak; weak chest; damp, clammy feet.

Kali bi.—Stringy, ropy, yellowish discharge.

In addition to the homeopathically indicated remedy, we must carry out a general line of treatment. Where the leucorrhœa is due to a vaginitis alone, thorough cleanliness, with boracic acid wash or some suitable lubricant, will oftentimes suffice. Cold water applications will many times afford better results than hot water. Glyco-thymoline applied to the parts is decidedly helpful; this, being an alkaline solution, will aid in overcoming the acid action of the discharges. This may be applied by the use of small tampons—large or heavy tampons are scarcely safe for fear of setting up uterine contractions and thereby cause abortion; in truth, many physicians object to the use of tampons owing to this fact. Personally I have never had any ill results, but always use a small tampon; but preferably at night or with patient in bed, with instructions to remove it if any discomfort is occasioned. Rest and quiet are advantageous, as we thereby save the friction of the parts otherwise occasioned.

Vaginal injections of warm water, containing bichloride of mercury, carbolic acid, boracic acid, calendula, pix-cresol, creolin, or any suitable disinfectant, may prove helpful, but must be used with great care; water warm, not hot, and not used too frequently, as we are liable to cause contractions and thereby abortion—particularly if water is thrown with force directly against the cervix.

Where the conditions are more exaggerated, the leucorrhœa being occasioned by a cervicitis or endometritis, the exact conditions must be ascertained and a line of treatment instituted accordingly. Here we are likely to have more systemic involvement, all of which should be carefully considered in our treatment, and here particularly is where the careful homeopathic prescriber has a decided advantage. Help is many times gained by a change of air and home environments, going from country to seashore or the reverse. Order your patient to bed and give her cheerful surroundings.

If we have a severe endometritis, and particularly if of gonorrhreal or syphilitic origin, we must follow up the case regularly and persistently, exercising every precaution at the time of labor to avoid ophthalmia neonatorum, and immediately after delivering make use of the intra-uterine douche with some suitable disinfectant, as bichloride of mercury 1 to 4000, or carbolic acid, and even repeat the douche within a day or two or as often as occasion demands, and then continue your treatment until you are reasonably sure of having effected a cure.

Many obstetricians are loath to use the intra-uterine douche, but in my judgment there need be no hesitancy in these cases, provided it is done carefully and aseptically, first washing and disinfecting the labia and vagina thoroughly.

There is no question but by following this line of treatment in these conditions we many times prevent the development of sepsis, and many accompanying ills.

CASE I.—Mrs. Hank, seen in consultation with Dr. Miller at time of labor; patient having been a sufferer during her nine months' travail. Endometritis, great pain and tenderness, with leucorrhœa. After three days' tedious labor she was delivered of a large dead fetus; during last twelve hours of labor patient was cold and hot alternately; temperature 104.6°, pulse quick and feeble, talked at random, and was seriously ill. When fetus was delivered the odor was foul in character, placenta soft and friable. Having the fetus, placenta, and all discharges quickly removed from the room, patient was washed and the uterine douche with bichloride 1 to 4000 used, using nigh two gallons. Temperature promptly lowered, but sixty hours later it was again to 103 1-2, when I again used intra-uterine douche. Temperature rose in forty-eight hours and again was uterine douche used, when temperature came down gradually and remained, and the patient made a good recovery.

CASE II.—Mrs. K., thirty-five years of age; seen in consultation with Dr. J. E. Harner in April, 1901; found patient confined to her bed, suffering severe uterine pains, great soreness and tenderness over lower abdomen—ugly leucorrhœal discharge, loss of appetite, repeated vomiting, nausea almost

constantly, headache and backache, slight rise of temperature; pregnant about four months, third pregnancy. Upon examination found a very active cervicitis. Cervix swollen and congested, parts extremely tender. After washing vagina and cervix thoroughly we dilated cervix with graded sounds, using five sizes, then made local application of iodine and glycerine 1 to 5, and applied glycerine and boracic acid tampons, with light wool tampon, allowing latter to remain forty-eight hours, when it was removed and parts irrigated, treated, and tampons applied again. This treatment was continued for several weeks at intervals. After about two weeks patient was enabled to resume her household duties and passed through to full term, giving birth to a good-sized babe, and made a good recovery.



## AN OLD STORY RETOLD.

BY J. WILLIS CANDEE, M. D.

In February, 1901, Mrs. Y., primipara, announced her suspicion of pregnancy. She informed me of a bad family record in regard to child-bearing, including some five deaths among near relatives, occurring, as it was stated, from renal complications. In addition she said she was "small," had suffered much from ovarian troubles, and received considerable treatment from a competent gynecologist. It was generally understood by her family and herself that maternity would be in her case extra-hazardous and should not be undertaken. On this point her father, a retired physician, was emphatic.

The lady further declared that she had no choice as to the course to be pursued. She desired to place with me the entire responsibility, and promised to do precisely as I directed, which promise, by the way, was faithfully kept.

Naturally some thinking was done. Shortly afterward the diagnosis of pregnancy became established. Pelvimetric examination showed dimensions below the average, yet not prohibitive. No obstetric obstacle was found in the pelvic organs. It was decided to tentatively allow the pregnancy to proceed, keeping the patient under close personal observation. She was fully instructed and, with one exception, throughout the case gave intelligent co-operation.

Affairs progressed normally, her general condition improving beyond all precedent. Nothing occurred to mar the record until the beginning of the ninth month, when nephritis suddenly developed.

The patient being fond of fresh air and very cool apartments was accustomed, during the summer, to sleep close alongside an open window. Following a prolonged hot spell came a sudden change to quite cold weather, this occurring two or three days prior to the appearance of nephritis. Mrs. Y. made no change in either windows or bed, in fact quite enjoyed the cool nights. We looked no further into ætiology. This was on September 2. She was put to bed and kept there most of the time that followed. A rigid diet was ordered, in addi-

tion to which she was directed to take each day the juice of two lemons largely diluted in water. A competent nurse was put in charge, in whose care were left emergency measures, to be used in the event of an eclamptic seizure until a physician could be obtained. Preparations were also made for a hasty delivery at any time. Daily collection and testing of the total quantity of urine were instituted.

The case presented the following symptoms: nervousness, nausea, vertigo, headache, made worse on lying down; pulse 60, showing increased arterial tension. A mitral systolic murmur could be detected. Patient could not comfortably lie down, but remained propped high in bed. The quantity of urine had been very small for twenty-four hours.

Prescription: gelsemium alternated with cuprum ars. 3x, Poland water, hot fomentations over kidneys, bowels to be freely opened. At a subsequent visit on the same day glonoin 3x was given in place of gels.

September 3.—Patient appeared much improved. She continued to do well on the same treatment until September 6, when another attack of nausea, vomiting, and vertigo occurred. This yielded to cocculus 3x, given as an intercurrent remedy. The quantity of urine had increased to nearly normal. On September 8 diuresis began. From that date until the 17th the quantity varied from 104 oz. to 121 oz. per diem. The patient appeared to be doing remarkably well in so far as renal conditions were concerned. Although moderate albuminuria continued, all threatenings had ceased. The fact, however, developed on trial that she would not bear much relaxation in the treatment.

Having no previous experience to guide me, I was unable to calculate the results of diuresis before delivery. In consideration of the fact that the patient was becoming anæmic and debilitated, and bearing in mind her small pelvic proportions, I deemed it unwise to wait two weeks or more till full term, particularly since there now seemed to be a probability of accomplishing delivery without convulsions. Counsel supported this opinion; hence on the 17th I operated to induce labor. Under the usual precautions the patient was anæsthe-

tized, the os well dilated and packed with sterile gauze. The vagina was also loosely packed. Kali phos. 3x was prescribed.

After thirty hours the packing was removed and a hot sterile douche given. On the evening of the 18th labor pains began. In the early afternoon of the 19th, progress being slow and the patient becoming exhausted, forceps were applied and the delivery of a living male child completed. The placenta, delivered by the method of Credé, was examined and thought to have been expelled intact. Severe and persistent hemorrhage followed, to control which I was finally obliged to pack the uterine cavity. Packing was removed after a few hours. Rupture of the perineum was avoided.

From the combined effects of toxæmia, hemorrhage, and shock, Mrs. Y. did not react satisfactorily, hence, under suggestion of counsel in the evening, she received an intravenous quart of saline solution. This had a wholesome effect.

No eclamptic complications were manifested during the labor or subsequently until evening, when, during the reaction incident to saline transfusion, one convulsion occurred. There was no further trouble of that sort.

Nothing more of note transpired until the 22d, when a chill, rise of temperature, and suppression of lochia pointed to intra-uterine irritation. Curettetment secured the final installment of placenta. After this came pelvic pain and tenderness for two or three days, suggesting trouble with the tubes, but these symptoms subsided without additional complications or sequelæ. The kidneys rapidly cleared up and the patient made a good recovery.

This case may, to some of my hearers, present nothing new, but it was for myself a unique experience, the special feature being diuresis preceding delivery. Accustomed as we are, in such cases, to this phenomenon beginning in the first to the third day after childbirth, we consider that it marks the termination of the period of imminent danger and the beginning of a process which, if properly managed, leads to restoration of the kidneys.

I had never heretofore been able to accomplish this result in the antepartum state. What would have been the further course of the renal complication and what the ultimate de-

velopments and consequences had the pregnancy not been terminated are questions that might have been followed with interest. Just how to account for the diuresis is another consideration. It will be observed that our classical mercurius corr. was conspicuously absent. Homeopathic indications governed the selection of glonoin which was, I am convinced, indispensable to the favorable results in the case. The same cannot be said for the choice of cuprum ars. Repeated tests have led me to regard this drug, as does Goodno and others, invaluable in averting eclampsia, and it was prescribed on that indication. It seems to act as a diuretic, especially in choked kidneys of the pregnant and puerperal states.

Which of the two drugs Mrs. Y. has chiefly to thank, or if the honors are to be equally shared, I cannot say. However, in this instance, one thinks first of glonoin,—another point against alternation,—yet I dared not admit either drug. Adjuvant treatment doubtless contributed to the results, and there again our equation is disturbed. Nevertheless, in this case it seems that medication should receive full measure of credit, for response to prescribing appeared to have been prompt and certain.

Apropos of the placenta incident, it may be said that this was not the first time of being deceived in regard to its complete expulsion.

Another point brought out by this experience has reference to the sudden development of nephritis at the beginning of the ninth month. In three other recent cases this complication was met at that period in gestation, each time immediately following exposure to cold under not extraordinary conditions. This would suggest the possibility of peculiar susceptibility at that time in pregnancy. It would also point to the advisability of special precaution against such accident.

This, in view of the inattention to details, dullness or indifference by self-interests—whichever it may be—that is often exhibited by women in this condition, may not be easy of accomplishment.

## FOUR FACTORS OF SUCCESSFUL OBSTETRICS.

BY E. A. MELTON, M. D.

The very fact that I am to discuss so many of the factors of successful obstetrics is proof sufficient that I do not intend to read you an exhaustive treatise on all or any one of these subjects, nor can I hope nor do I care to say anything new or original, but shall content myself with emphasizing certain principles which I consider of prime importance to both patient and accoucheur.

Before proceeding further it may not be amiss to ask what may be considered a successful obstetrician. Does it simply mean one whose records show a low rate of mortality? That is indeed one of his attributes and a very desirable one, but it is by no means the only requisite; for from the fact that the vast majority of cases are so nearly normal as to need very little aid of a skillful character, it follows that a doctor with scarcely more ability than the average midwife could worry along for years, and, with luck on his side, might seldom feel his weakness; but sooner or later, perhaps both, he will meet some condition in the confinement chamber that will cause him to wish he himself had been stillborn. A case of this kind came under my observation only a few months ago. Fully aware of his inability to handle the case this dignified M. D. deserted his half-dead patient and retired to the lawn to shed briny tears of remorse, while the train twenty miles away was bearing swiftly to the scene a hated homeopath, who—at once—delivered the mother of her child and the weeping doctor from his despair. No, records and statistics often show little to distinguish the successful from the unsuccessful accoucheur. It is most often in the little things, the minutiae, if you please, where one succeeds and the other fails. The former will manage to do many things just a little smoother than the latter, and an ever-increasing demand for his services is a part of his recompense.

And now a few remarks on the general management of the case. As a rule the physician is engaged some time in advance. This is proper and favorable to all concerned. The

doctor can then make the prospective mother a social call, during which he will be apprized of any abnormal condition, either through his own observations or information offered by his patient. Over and above this, let us not lose sight of the fact that such a visit, tactfully made, always instills into the woman's mind a sense of confidence in her physician's carefulness, capability, and sympathy, which may be of great value in the trying hour. Then, when called to the bedside, let us remember that at such times many women's minds are abnormally acute and sensitive. She views with more or less fear and alarm the coming ordeal, be she a primipara or the mother of children. She feels her helplessness often, and looks to her attendant as the only one who can aid her and bring her safely through her great trial. How necessary, then, that he conduct himself before her in that cheerful, calm, self-confident manner, which, by the way, is the proper means by which the physician may teach others that he is competent. This confident, positive bearing, maintained even in the most trying cases, implies a thorough knowledge of all the abnormalities that may present themselves, and also the best means to employ for their relief; and it implies, combined with that knowledge, that tact and pleasing personality which physicians should have naturally, must cultivate continually, and which impress patients so favorably, and yet which cannot be described by tongue or pen.

The subject of chloroform I will touch on but lightly. In the journals I notice there are still a few who, because of fears unfounded, or habits deep-seated or other reasons inexplicable, are still content to watch a woman suffer agony often inexpressible and withhold from her the soothing influence of a few whiffs of chloroform just before each paroxysm. A few specimens of this species of doctor should be captured and taken care of, as they are now so nearly extinct as to be considered curiosities. However, any good thing may be overdone, and chloroform may do harm either by beginning its use too soon or using it too freely. To obtain the best results with this agent is a study of itself, and one worthy of our close attention, until some better medicinal or psychical means of alleviating pain is offered to the suffering world.

Not so universally used as chloroform, but having also for its object the comfort of the patient, is the Kelly pad. I know its use has been objected to by some because of fear of infection of one patient from another; but with proper attention to surgical cleanliness, I have no such fears. For this work I prefer a pad of the largest size, under which I place an old quilt folded and refolded until about three feet square, which prevents the hips from sinking too deeply into the bed.

I always use one, having confined as many as three patients on the same pad within twenty-four hours, and have never yet been the unfortunate possessor of a case of puerperal fever. By its use the bed is not soiled, much to the satisfaction of all, and your patient is kept comfortably dry, because her hips lie in a pad from which all fluids may be soaked up with cloths every few minutes. After delivery of child and placenta the pad is for the last time wiped dry and then deflated, the woman rolled gently on her side, pad removed, gown drawn down, and your patient is clean and comfortable and ready for her needed rest, and ever ready afterwards to inform her lady friends that no physician without a Kelly pad should be allowed to confine a woman.

The fourth and last factor of which I will make brief mention is the short forceps, which I use in the second stage of all tardy but otherwise normal labors. I say *short* forceps, because they may be used so easily with the woman in the dorsal position in bed, and in several ways are superior to the long instruments in this class of cases. While it is true much harm has resulted from the use of forceps in unskilled hands, this is no argument against the instrument, but rather against the operator. I am convinced that a more frequent use of the short forceps would result in fewer cases of stillborn babes and terribly shocked mothers. Every physician could easily recall cases similar to the following: Two years ago Mrs. M., after twenty hours of fearful pains, gave birth to a dead child, which she was informed was alive at the beginning of labor. It was days before she recovered from the shock of those long hours of agonizing, unaided struggle. A few months since she was again confined. The head again became fixed in the pelvis as before, and her most frantic efforts

failed to move it. But this time she was attended by another physician, who, as soon as progress ceased, in response to her pleadings and his own best judgment, gently applied the forceps and delivered her of a live child, and with almost none of the shock which she had experienced in her former confinement.

I have about as much patience with the anti-chloroformist as I have with the anti-forceps crank. When I hear a doctor boast of the scores of women he has confined and never, never had a case that called for forceps, I feel compassionate toward him and his patients as well, for I am convinced that during all those years he must have had many cases that did call for forceps, and called loud and long, and piteously, in mournful duet with the mother's groans.



## THE CLINICAL FEATURES OF EARLY ECTOPIC PREGNANCY.\*

BY EDWIN A. NEATBY, M. D.

Assistant Physician for Diseases of Women at the London Homeopathic Hospital.

Ectopic pregnancy is a subject too large to be dealt with in one paper, and in some of its aspects it is too technical to be of real general interest. I have chosen to err on the side of simplicity, and I must ask your forbearance if my remarks are too elementary and too didactic.

To save monotonous repetition I use the terms extra-uterine, ectopic, and tubal pregnancy or gestation as synonymous, though this is somewhat loose practice.

It is, to-day, hardly credible that although a knowledge of the fact that a fertilized ovum may develop, even to term, external to its normal home, has existed for over nine hundred years, yet at the time I and some of you were medical students no hand had, with determinate foreknowledge, ever been stretched forth to save a woman, the unsuspecting victim of this condition, from the appalling accidents which might at any moment hurry her into eternity. I do not state that no

\* British Homeopathic Society.

ectopic fetus had ever been removed by operation from the abdomen, but I mean that never had a pre-determined operation been done for primary rupture of an ectopic gestation sac with the woman dying before the surgeon's eyes from internal hemorrhage. Operation for removal of the unruptured sac had not even been thought of, for it was only quite recently that the diagnosis of unruptured tubal pregnancy had been accomplished. Mr. Lawson Tait wrote concerning a case seen in 1881 that he agreed with the medical attendant as to the nature of the lesion (ruptured tubal gestation). He adds, "This gentleman made the bold suggestion that I should open the abdomen and remove the ruptured tube. The suggestion staggered me, and I am ashamed to say that I did not receive it favorably. I saw the patient again, and again I declined to 'operate,' and a further hemorrhage killed the patient." In 1883 Tait's first operation for a ruptured gestation sac was performed. The result was not satisfactory owing to faulty technique, but it demonstrated the feasibility of the operation, which soon became popular and widely successful.

As far as possible let us approach the subject from the clinical side. I shall ask you first to consider with me what I may call a schema of the symptoms of ectopic gestation—to view the question from the outside of the patient before applying either acquired knowledge or theory to explain them, or looking with the mental eye into the pelvis and abdomen of the sufferer. Every method involves repetition, and none is wholly satisfactory—this one, at least, avoids the elaborate anatomical classification of the text-books.

In investigating a case where any abnormality in connection with pregnancy is suspected it is of the utmost importance to go minutely into the history. This was impressed upon me more than ten years ago by listening to the cross-questioning by Dr. Burford of a patient for whom I sought his advice. Apart from the history as dealt with below in the description of hemorrhage, pain, etc., it is necessary to refer to the previous history of the patient. Are there any circumstances in the patient's past which arise with sufficient frequency to attract one's attention? You will at once reply that a period of prolonged sterility furnishes an instance of one such circum-

stance. I believe this is undoubtedly so; but while allowing this, it is right to emphasize the fact that extra-uterine pregnancy may occur at any stage or period of a woman's reproductive life. Her first pregnancy may be ectopic, either immediately after marriage or not for years later. A normal delivery or a recent abortion may be followed almost immediately by a tubal conception. A long series of normal pregnancies may be interrupted at any point by an abnormal one, or intra- and extra-uterine pregnancies may occur together. More than one ectopic pregnancy may occur in the same patient, and even in the same tube, as will be shown by a case to be referred to later. These facts cannot be too prominently before the mind. Again, the history of any pronounced pelvic inflammation, or of so-called "inflammation of the bowels," must be held to bear a possible relationship to the condition. Although it cannot now be believed that the action of the ciliary processes has so great a power as was formerly supposed, yet it appears reasonable to suppose that mechanical narrowing or distortion of the fallopian tube may hinder the progress of the ovum, whether impregnated or not, even while permitting ingress of the smaller spermatozoon, endued with locomotor powers. More than this we cannot say regarding the clinical aetiology of ectopic pregnancy.

The main symptoms and signs may be stated to be:

- (1) The symptoms of pregnancy.
- (2) Irregular hemorrhage.
- (3) Pain.
- (4) Collapse.
- (5) Retching and vomiting.
- (6) Rectal tenesmus.
- (7) Vesical irritability.
- (8) Mammary pains.
- (9) Abdominal distension.
- (10) Abdominal tumour.
- (11) Pelvic tumour.
- (12) Displacement of pelvic organs.

(1) Firstly, let me say that the subjective symptoms of pregnancy, according to the supposed date of gestation, should be carefully inquired for. They may be present as intra-uter-

ine pregnancy, and in the case of an intelligent woman, able to communicate the history of her recent health, they may be of the greatest possible value in aiding the medical attendant in arriving at a correct conclusion. The absence of such phenomena is of practically no use. Some patients have none; the symptoms for which the patient seeks advice may be associated with a date of pregnancy too early for their development; the patient may be unobservant, or she may be too ill to render an account of herself.

Apart from conspicuous and leading symptoms and physical signs, the menstrual history is perhaps of prime importance, and it may form the only guide as to the date of a possible pregnancy. It must be borne in mind that a delay of one or two weeks may mean pregnancy, but the value of this delay will be discounted or nullified if "irregularity" of the same degree have been noticed before. It is not enough simply to inquire when the patient last "saw" anything. Minute inquiry must be made as to whether the last colored discharges were in every way a full, regular, and ordinary period occurring when expected. If an irregular hemorrhage be misinterpreted as an ordinary period, a danger signal is construed as an "all-right-ahead" light.

(2) Irregular hemorrhage may appear as one slight bleeding of a few hours' duration, or a number of such "losses," or there may have been an almost continuous oozing, since the last ordinary period, varying in quantity and color. A dirty brownish discharge following close on menstruation, or after a few days' interval, may mean either a threatened abortion of intra-uterine pregnancy, or extra-uterine gestation, or again, a hydatidiform mole. In the last-named condition there may be nothing diagnostic, or the expulsion of some of the hydatidiform vesicles or "skins" may solve existing doubts. The character of the colored discharge may be of value in determining the nature of the pregnancy (if any). The presence of a definite decidual membrane or cast is probably positive evidence of pregnancy, though individual large cells (like decidual membrane cells), as seen under the microscope, are not conclusive. A cast due to pregnancy must be distinguished from a dysmenorrheal membrane. The latter "pos-

sesses the complex structure of a hypertrophied endometrium, and contains follicles, nucleated cells, and blood-vessels." It is usually known to be recurrent in any given patient, and is not more than one-twelfth of an inch in thickness, and two inches in length, and is hardly to be mistaken for a decidua of pregnancy, which attains from one-eighth of an inch to a quarter of an inch in thickness, and is of a fleshy vascular nature.

[A complete decidua from a case of ectopic pregnancy was shown in Slide No. 2, from a specimen presented to the Royal College of Surgeons, by Mr. Bland Sutton. The specimen shows two lateral prolongations corresponding with openings of fallopian tubes and larger openings for cervical canal. Shaggy externally; inner aspect smooth and marked with minute orifices of the uterine glands. Expelled thirty-six hours after operation for the removal of ruptured tubal gestation.

Under microscope No. 1, was a section showing the compact and spongy layers of the decidua. The superficial portions of the glands are straight, with dilated funnel-shaped mouths, while the deeper portions are tortuous, and in sections look like a number of cavities of various shapes, and lined by cubical or flattened epithelium. The deepest portions again, next the muscularis mucosæ, are lined with columnar epithelium. The inter-glandular substance becomes filled with cells with large and often multiple nuclei.

These are shown in lantern-slide 3, from a first pregnancy (uterine). Here are also normal chorionic villi, surrounded by blood clot, etc.]

If chorionic villi are found in the cast, then the pregnancy is intra-uterine, but of course it is not fair to jump to the conclusion that the converse is true. Chorionic villi readily elude even a diligent search. Consequently, though their discovery may be taken as a proof of intra-uterine pregnancy, their absence from decidual shreds can never with certainty be regarded as proof of an extra-uterine conception.

[Slide 4 shows chorionic villi in a fallopian tube, the wall of the tube showing enlarged thrombosed vessels, oval in section. There are no plicæ, the lumen being filled by villi

and blood clot. The specimen is from a patient of my own, as also Slide 5, showing fibrotic villi and a small amount of degenerate decidua at the periphery. As villi may sometimes be mistaken for plicæ in the fallopian tube cut across, I have had two slides made to show the branching processes (Slide 6), columnar epithelium and goblet cells secreting mucus.



Fig. 1 (Slide 5).—Chorionic villi and decidual tissue.

Slide 7 shows another portion of a fallopian tube, with the lumen nearly blocked by plicæ. I have shown these slides partly to enable us to compare a villus with the plicæ of the tube, and partly to show how small a circumstance may be supposed to hinder the progress of an ovum in its journey to the uterus.]

Before leaving the subject of irregular hemorrhage we may summarize by saying that almost any form of it, in almost any relation to a previous menstruation, may exist in a case of ectopic gestation. Should an intra-uterine pregnancy be associated with a tubal gestation even a serious "flooding" may occur (as a result of abortion). This would form a serious and misleading complication, but as it is a quite possible occurrence it must be borne in mind. These facts suggest that it would be a safe rule to institute a careful aseptic pelvic examination in every case of supposed abortion.

It must not be forgotten that there may be merely an absence of menstruation without any irregular bleedings, and,

finally, that the gestation may be of too early a date for any amenorrhœa to have been observed and irregular hemorrhage may be absent—in short no departure from the normal as regards menstruation or hemorrhage may exist. Should abnormality develop it may arise at any period of the ectopic pregnancy prior to or after rupture or tubal abortion or molar formation.

Before dismissing the menstrual phenomena altogether I may state that, theoretically, an ectopic conception may occur immediately before an imminent menstruation through the meeting of a wandering spermatozoon and an ovum, the union taking place too late to stop the menstruation. The history, as furnished by menstruation, would in such a case be misleading by a week or more.

I may remind you that both in the lower animals and in man spermatozoa have been found free in the tube and it is demonstrable that either a fertilized ovum, or a spermatozoon and ovum, independently, may find their way from one tube via the peritoneal cavity to the distal extremity of the opposite tube. This is, of course, the only explanation of the occurrence of a pregnancy in the distal part of a tube which is from ancient date proximally closed. A case of this kind is recorded by Howard Kelly and Slide 8 showed the same fact. Here is a pregnancy in an undeveloped horn of a bicornuate uterus. Müller's ducts have failed to fuse, and one part only of the left Müller's duct has remained patent. The part indicated is closed, showing that there is no ingress for spermatozoa from the cervix to the distal patent portion of the cornu except via the developed cornu, right fallopian tube, peritoneal cavity and left fallopian tube, and patent end of the undeveloped cornu. These are facts of extreme interest and are corroborated by the cases where pregnancy occurs after the removal of one tube and the opposite ovary. Although the digestive powers of the peritoneum for some foreign bodies, such as silk, is so great, yet the living fertilized ovum seems able to resist, for a time at least, its efforts.

(3) I have so far, of course, referred only to vaginal, i. e., externally manifested hemorrhage. Such bleeding may stand alone as the sole sign of a possible abnormal pregnancy.

More often some form of pain co-exists. This may vary from merely dull aching of indefinite situation and character to an anguish which induces or is at least accompanied by collapse. An early sense of weight or aching in one side of the lower part of the abdomen is occasionally present. It is readily conceivable that the presence of what is practically a foreign body in the tube, and one which is quite rapidly increasing in size, would cause such pain. If the enlarging foreign body (embryo) be in the intra-mural part of the tube, the pain will be more marked. As a matter of fact, however, pain may be entirely absent in the first stage of an ectopic gestation, i. e., before rupture, abortion, or hemorrhage into the peritoneal cavity. When one or more of these events takes place it is announced by pain both sudden and severe. It is cutting or shooting or tearing, occurring most often in one iliac region, or in the hypogastrium, or in the vagina or vulva. But it not seldom occurs around the umbilicus or in one or other loin, and simulates renal colic, appendicitis, or some form of perforation. Mr. Hastings Gilford of Reading wrote in the *Lancet* (June 24, 1901, p. 1710): "In all four cases which I have seen, the seat of pain has been in the abdomen, and not in the pelvis." He mentions the iliac region, the small of the back, and the splenic region as having been the seat of agonizing pains.

Should the patient survive one severe attack of pain attended by collapse, it is almost certain to be followed by another of a severity equal, greater, or less. The second may be followed by a third, and the third by a fourth, etc. It is these recurring attacks of pain and collapse, with varying intervals of greater or less freedom, which are most characteristic of an extra-uterine gestation. A case which Mr. Johnstone kindly allows me to quote, besides having other interesting features, presented two very well-marked separate attacks.

Patient, aged twenty-four, had been sterile six years.

On April 1, 1900, menstruation began, "like tinted leucorrhœa" at first, then natural. It continued on and off for fifteen days, patient being shaky and pale. On April 15 she rose feeling well; at 9 a.m., while dressing her hair, with her hands over her head, she had sudden pain in the abdomen, all over,

which bent her double. This lasted an hour and passed off in bed, but she remained cold, pale, and in some pain for two days. There was no vaginal hemorrhage. Five days later, when in bed, suddenly seized by a severe pain in the center of the abdomen and above the pubes; return of collapse and some delirium. She passed a complete decidua cast. Physical signs: A dull area on right side of abdomen, a mass of ill-defined outline reaching to umbilicus, pressing uterus forward and fixing it; also a mass in Douglas' pouch (probably blood-clot).

She rallied, and on May 21—three and a half weeks after the last attack—Dr. Johnstone operated and found the abdomen full of liquid and clotted blood and a mass in the right tube, which he removed without further hemorrhage. The fetus was partly in and partly outside the tube, and aged about two and a half months.

The patient made a good recovery.

One sudden overwhelming abdominal pain, accompanied by collapse of a mortal character, indicates some terrible intra-abdominal cataclysm, but does not necessarily point to rupture of a gestation sac. Indeed, the evidence of the symptoms may point away from ectopic pregnancy, even when that is present and rupture has taken place. For instance, one evening a patient was seized without warning with severe pain in the sacrum, upper part of the abdomen, and under the left breast; she vomited and became faint, and next morning the doctor found her cold, pale, and in severe pain. From this time the history was that of a case of acute intestinal obstruction, no faeces or flatus passing and nothing being kept down. There were the physical signs of peritonitis without any localizing cause, and what physical signs there were, were against pregnancy. Operation showed a tubal mole and much blood in the peritoneal cavity.—(Gilford, loc. cit.)

To return. If each succeeding pain is accompanied by moderate collapse the probability of ectopic pregnancy is enhanced. If pains and collapse occurring in a series are accompanied or preceded by vaginal hemorrhage with shreds of membrane, little doubt need remain; and if the shreds, carefully examined, show decidua cells but no villi the diagnosis can be made almost with certainty.

(4) Collapse and pain are not uncommonly associated, but

this is not invariable, nor are they by any means necessarily of equal severity. A comparatively slight sudden pain may be followed in the course of a few moments by profound and steadily increasing collapse. Again, the patient may make a good rally from the collapse, either permanently, or, as just stated when dealing with pain, only to relapse into a series of syncopal attacks. It is this series of pains and collapse which is practically pathognomonic of ectopic pregnancy, and, as we shall see later, of one particular feature of ectopic pregnancy.

The collapse of extra-uterine gestation is commonly associated with pallor, especially of the mucous membranes, with difficult sighing respiration, and a characteristic restless tossing of body and limbs. This, needless to say, indicates internal hemorrhage, but in the early ruptures such severe evidences of bleeding may be absent.

(5) The symptoms of retching and vomiting being common in normal pregnancy and in so many other abdominal conditions are not of any diagnostic value alone. They may occur in almost any degree of severity and may last and vary in length of time. They are associated rather with the accident of ectopic pregnancy than with extra-uterine gestation per se. They are more sudden and severe in intra-peritoneal rupture, more moderate and long-continued or recurrent in tubal abortion or extra-peritoneal (meso-metric) rupture.

(6 and 7) Rectal tenesmus and vesical irritability are not seldom present in the more chronic cases such as have been alluded to in the last paragraph. (8) Mammary pains are less common than the foregoing, and occur in the same class of cases. Darkening of the areola and development of follicles are common.

Turning now to some of the physical signs, we come first to the examination of the abdomen. Remembering again that even a negative sign may be of value, we may note on inspection that no alteration in the appearance of the abdomen has taken place, and, on palpation, that its softness is maintained, and no tenderness exists, and no abnormal area of dullness is discoverable in the flanks or the hypogastrium. Or distinct tympanitis may be at once obvious, or, while no distention is

found, there may be a dull area and a lump on either side of the middle line in the iliac region or hypogastrium. The lump may be hard, or it may be semi-elastic; in either case tenderness will probably be present. The history obtained from the patient or the medical attendant may tell of the steady increase of general and local swelling, or even that local distention



Fig. 2.—Interstitial gestation.

varies from time to time, e. g., being diminished after voiding urine.

It is seldom that dullness is found in the flanks in a very recent case, though occasionally this sign and a thrill may cause free fluid to be diagnosed.

On vaginal examination the uterus may be movable and normal in size and position. A swelling in the situation of the fallopian tubes, or lying between the uterus and the pelvic wall, may be felt. Such swelling may vary indefinitely in size, or, together with a swelling of elastic consistence and ovoid shape, the movable uterus may be enlarged up to four or five inches. Such a combination of physical signs—i. e., an enlarged uterus, with another swelling by the side of and behind it, especially if on the latter are numerous pulsating vessels—

is strong evidence of extra-uterine pregnancy. The enlarged uterus may be pushed to one side.

[The next slide showed a uterus and its appendages from a case of interstitial or tubo-uterine gestation. The right side of the fundus is dilated and rent asunder by a long ragged aperture. Exposing an oval cavity which measures two inches in its chief diameter, and an inch antero-posteriorly. Its walls are very thin. The floor of the cavity bulges into the upper part of the interior of the uterus, and here its walls are much thicker. Its inner surface is rough and reticulated. From some of its numerous pits and depressions hang broken-off portions of chorion, but there is not a trace of a distinct decidua. The right fallopian tube passes into the outer and anterior aspect of the wall of the cyst, expanding slightly into a funnel-shaped orifice which opens into the cavity close to the rent in its walls. At the extreme upper and inner part of the cavity of the cyst is the continuation of the tube, which terminates by a funnel-shaped opening in the uterine cavity, where its wall is bulged inwards. These orifices are marked by a stout bristle. The uterus is five inches long from the fundus to the os externum. The reverse of the specimen shows that its posterior wall is three-eighths of an inch thick, and the cavity is lined with a decidua. The right ovary contains a true corpus luteum.

From a healthy married woman, aged thirty-two. She had had two children, of whom the younger was fourteen months old, and had been weaned about two months; she had not menstruated during lactation, or since the weaning of her last child. One evening when in bed she was seized with severe abdominal pains, accompanied by sickness and slight diarrhea, but her abdomen was not swollen or tender. She rapidly became collapsed, and died in twelve hours from the commencement of the attack. Her abdominal cavity contained nearly six pounds of clot, and five pints of a bloody fluid, in which floated a fetus.

Next was shown the fetus and membranes from the same case as the preceding specimen. The fetus measures one inch and a half in length, and is, probably, in the second month of development.]

The uterus may have lost its mobility and its distinctness of outline, and the pelvic swelling may be irregular in shape, filling Douglas' pouch or extending above the brim of the true pelvis, not limited to either side, though, perhaps, more marked on one. The pelvic mass may bulge down towards the vaginal orifice, and its consistence be hard and inelastic or somewhat doughy. The whole may thus be a mass in which it is impossible to distinguish the component elements. Or, once more, there may be no mass—simply slight abdominal distention and an elastic bulging of the posterior fornix, and some obscure sensation of fullness or displaceable resistance. Finally there may be a one-sided abdominal swelling, tense and elastic or hard on palpation, displaced out of the middle line, together with a bulging elastic vaginal mass near the vulvar orifice, possibly surrounding the rectum like a ring of rigid resisting substance, very much like the exudation of pelvic cellulitis.

(*To be continued.*)



## DRY LABOR.\*

BY ADAM H. WRIGHT, M. D.

Come with me to one of its lower corners in St. George's Chapel, Windsor Castle, and look at something sadly interesting from an obstetrical standpoint—the cenotaph of the Princess Charlotte. This monument serves also as a memorial of a sad obstetrical calamity. All England, in 1817, was waiting for a happy termination of the Princess Charlotte's pregnancy. The membranes were ruptured on Monday at 7 P. M. Labor pains followed soon after and continued in varying degrees for fifty hours. There is every reason to suppose that in this "dry" labor the uterine contractions were accompanied by more than the average amount of suffering. The first stage probably lasted about ten to twelve hours; the second stage thirty-eight to forty hours. The three distinguished physicians in charge decided that "giving assistance was quite out of the question," as the "labor proceeded reg-

\* Read at meeting of Ontario (Can.) Medical Association.

ularly although slowly. The child was born without artificial assistance." Soon after delivery there was post-partum hemorrhage and hour-glass contraction and the placenta was removed by the hand introduced into the uterus. In two hours she became "sick at the stomach, had noises in her ears, became talkative and had a frequent pulse." In another hour symptoms of pulmonary thrombosis occurred. Patient died in a few minutes.

It is somewhat difficult to realize that this sad tragedy was enacted in England, the birthplace of the midwifery forceps, which had been invented two hundred years before. However, I do not wish you to get the idea that the attending physicians did nothing. They were, in some respects, most strenuous. They carefully prepared their patient for her severe trial by lowering her organic strength by bleeding, aperients, and low diet; and they tried to resuscitate her dead baby.

In considering such a report we, the wise men of this intelligent era, might think we could have done better. Well, as we could not by any possibility have done worse, it may be fairly assumed that we should have done better. Let me ask a question, however: How many of us to-day can manage, in a thoroughly satisfactory manner, an ordinary case of "dry" labor? Very few, if any, I fear.

The direct references to the subject in our text-books are of the most meager description. We are told that in certain cases the membranes rupture early, causing a dry labor. In such a case the parts must be dilated by the hard unyielding presenting part instead of by the bag of waters. Such labors are tedious and painful. Lacerations of the soft parts are apt to occur and the use of the forceps is frequently necessary. I wish to-day to go a little beyond these vague statements, and speak somewhat definitely of the conditions present, the dangers to be feared, and the proper treatment to be adopted.

The term "dry," as applied to such labors, is unscientific, and to a certain extent misleading. I shall consider a dry labor as one in which the membranes are ruptured, and the waters evacuated before the onset of labor during early uterine contractions, or during the first stage of cervical dilatation. In other words, the term "dry" simply refers to premature

rupture of the membranes, and discharge of the liquor amnii. If any portion of the parturient canal (especially the mucous membrane of the vagina) becomes hot and dry, that condition should be considered as one of the complications, and not as an essential feature of the "dry" labor.

Dangers. The following are some of the dangers to the mother:

Exhaustion from long-continued pain.

Rupture of the uterus.

Laceration of the cervix and vagina.

Injury to the pelvic floor.

Laceration of the perineum.

Various form of fistula.

Irregular contractions of the uterus, "hour-glass."

Post-partum hemorrhage.

Pulmonary thrombosis.

Septicæmia.

The dangers to the child are chiefly: Asphyxiation, meningeal hemorrhage.

Let me call your attention to some of the elementary facts connected with the mechanism of uterine expulsion.

Physiologists explain to us that every muscle in the body has an opponent, and that, generally, the flexors and extensors are opposed to each other.

The muscular fiber which shortens during contraction does not lengthen after contraction, except by direct action of its opponent.

In the uterus the opponent to the muscular fibers is not a muscle, but the liquor amnii, contained within the membranes, acting by hydrostatic pressure.

Before labor the muscular fibers, after contraction, are forced to their original length by the pressure of the liquor amnii.

After labor commences, but before rupture of the membranes, the internal os begins to open and the amnion is forced partly into the cervical canal. The resisting pressure is thus lessened, and the muscular fibers are not stretched to their original length after the contraction, but become gradually shortened by successive pains. This is partial retraction.

We have, also, the results of uterine polarity, in consequence of which the lower zone and cervix relax while the fundus of the uterus contracts. Such relaxation does not, in itself, cause dilatation, but renders the lower zone capable of extension.

After rupture of membranes there is generally a stoppage, for a time, of the contractions.

Premature rupture of the membranes destroys the proper equilibrium of the various forces in a way not easily understood.

Generally something like a storm arises, accompanied with irregular contractions, and, perhaps, tetany of the uterine walls, spasms of the cervix, and pains, sometimes intolerably severe, with diminished expulsive force.

These great changes in the expulsive forces have much more to do with the difficulties connected with the progress of the labor than the shape of the hard presenting part as compared with a bag of water.

I will now give a history of a case occurring in my practice many years ago:

Primipara. Full term. Membranes ruptured Thursday morning. Labor pains commenced the following Sunday morning. The contractions soon became strong and were accompanied by intense pain, amounting to agony at times. Occiput posterior. Administered chloroform. Introduced hand and rotated occiput to the front. Applied forceps; delivered with difficulty. Was mortified to find that the occiput had slipped to the rear while I was applying the blades of the forceps, and there was a bad rupture of the perineum and pelvic floor.

The treatment of this case was, in many respects, anything but good. The labor occurred at a time when I had rather hazy ideas as to the proper treatment of dry labors. In the first place, I did not take sufficient care of the patient during the two days intervening between the rupture of the membranes and the onset of labor. Next, I administered chloroform myself, chiefly from a desire to save my patient the payment of an extra fee. Next, I gave chloroform badly. Finally my treatment of the occipito-posterior position was faulty.

There was no nurse present, the people were poor, and I

tried to do the best I could without assistance. In recent years I have not attempted anything of this sort. I desire an assistant who will give all his attention to the administration of the anaesthetic, which I wish done in a certain definite manner which I will describe later. Fortunately, in this case, the mother and child both did well, and I was able to repair the injuries to the pelvic floor and perineum by immediate operation.

I will now pass on to speak of later work, giving especially the results of my observation during the last three years. Before doing so, however, allow me to return to the case of the Princess Charlotte and express certain opinions from a clinical standpoint.

After the rupture of the membranes at seven o'clock there was a pause followed shortly by pains which, during the latter part of the night, were very severe. The cervix was probably dilated at about seven o'clock Tuesday morning. Patient was then very tired and almost exhausted. She urgently required assistance, and should have been delivered about eight or nine o'clock, or by eleven o'clock at the latest. Pains were less severe during Tuesday, but became strong again about midnight. Delivery was expected every hour during the first half of Wednesday. Child died probably during this (Wednesday) morning. Uterine contraction strong, with great suffering Wednesday afternoon and evening. Child born at nine o'clock.

The chief cause of the delay after Tuesday morning was, probably, faulty position of the head, the occiput being posterior. How do I know? you may ask. Well, I do not know, but I feel almost certain that such was the case. Why, I will tell you later. After delivery the patient suffered terribly from exhaustion and shock. There was hour-glass contraction and considerable hemorrhage. There was probably serious injury to the pelvic floor, laceration of the cervix, and a certain amount of necrosis of the tissues subjected to the prolonged pressure, which would have resulted in a fistula, or two or three fistulæ, had the patient lived. You may think some of these statements are founded on mere guesswork. To a certain extent this is true, but I feel certain that the guessing is nearly

correct. We will probably all agree that the patient's life should have been saved, and her suffering should have been greatly lessened.

Before going into details I wish to tell you, in a general way, some things founded on my observations in connection with the last twenty cases I have met.

A small proportion of dry labor cases progress favorably even when membranes have ruptured two to seven days before the onset of labor.

Generally the labors are tedious and painful far beyond the average.

The tremendous storms which sometimes suddenly and unexpectedly arise in connection with the uterine contractions are occasionally accompanied by pains amounting to agony which is unendurable for any length of time.

In many cases where the patient's lives are saved much injury is done through hemorrhages or injuries to the parturient canal.

By judicious treatment the lives of mothers and children can generally be saved, and the sufferings of the mothers can be greatly diminished.

In a large majority of cases the occiput is turned to the rear, and remains so unless the malposition is rectified artificially.

In a small proportion of cases of these occipito-posterior positions, the occiput goes to the front naturally.

In a certain proportion of dry labors there is some pelvic deformity, generally contraction of the brim.

I will now refer to a few cases illustrating some of these points:

W. Goldie's patient. Membranes ruptured shortly after onset of labor, and before dilatation of the cervix. Pains very severe, had lasted from morning until half-past four P. M. when I saw her. Patient nearly worn out. Os partially dilated but rather rigid. Vagina not well dilated. Perineum rigid. Chloroform administered, vagina and cervix dilated by fingers and hand; perineum still somewhat rigid. Forceps applied at six; delivered at 6.30; occiput to the left front. Bad rupture of the perineum through sphincter ani and serious laceration

of the pelvic floor. Both were repaired by immediate operation.

In this patient, although the membranes were ruptured fairly early, the head acted as a ball valve so well that the liquor amnii not all evacuated until the cervix was partially dilated, but was evacuated too soon to allow an easy normal labor. I think it might have been better if greater effort had been made early in the morning to diminish the pains, but at that time no physician was present. You will notice that we had an occipito-anterior position. I wish to state, however, in this connection what I will repeat later, that this was the exception and not the rule in cases where early rupture of the membrane occurred.

J. G. Caven's case. Pregnancy advanced eight months. Uterus distended from hydramnios. May 3d, pain in abdomen considerable; May 7th, 8th, 9th, pain severe with some tetany of the uterus, relieved by hypodermics of morphine. May 10th, labor commenced; seen by Crawford Scadding in consultation. May 11th, noon, first seen by myself. Uterus in a condition of tetany; membranes kept continuously tense; slight dilatation. Membranes punctured. Saw her again in the evening. During afternoon forceps applied and slipped. The pains had been very severe. We presume, from the slipping of the forceps, that there was some abnormal head presentation, the nature of which we could not for a time discover. Chloroform administered. Occiput found to be towards the left posterior, rotated to the front by the hand; forceps applied; child delivered.

The puncture of the membranes in this case changed it from an ordinary difficult labor to the so-called "dry" labor. When there is tetany of the uterus it is not well to evacuate the amniotic fluid too suddenly. Rapid escape of the waters may be partially prevented by using the fingers or hand as a plug. It might have been better to administer chloroform earlier with the object of relieving the uterine spasm, and puncture the membranes while the patient was still under the influence of the anæsthetic. I may say that I know of no treatment for a patient with such symptoms which is entirely satisfactory to me.

I had noticed years ago that among the many varieties and complications of tedious dry labor, malposition of the head was somewhat common. I have recently, however, reached a definite conclusion that in nearly all cases of pronounced dry labor, that is, when the membranes have ruptured before the onset of labor (especially sometime before), the occiput points to the rear. Whether this faulty head position is the cause or effect of the evacuation of the liquor amnii, I do not know.

In the early part of 1899 I happened to have three difficult dry labors within a short time, two of them being the worst I ever saw. In each the occiput was posterior. I then went over some of my notes, and found that such complication was more common than I had thought. I have studied the matter somewhat carefully since.

The following report illustrates what I have already referred to as the great danger which sometimes arises from the extreme pain.

Primipara. An educated, refined, and somewhat delicate and small woman, graduate of a training school for nurses. Married to a physician living in Ontario. Came to Toronto for her accouchement, and was staying at the house of a friend before coming into a private ward at the Burnside. The membranes ruptured one morning, without warning, and she at once went to the hospital. Walked about a great deal during the day with the hope of bringing on labor pains. The following day she did more walking until she became weary, and yet no pains appeared. About eight in the evening she was lying on a couch, but got up somewhat hurriedly and went into the next room to look for something she wanted. She was then seized with severe pains. Dr. Smith, the resident interne, and Miss McKellar were upstairs looking after a patient suffering from post-partum hemorrhage, and did not get downstairs to our patient for about half an hour. I was sent for, but did not reach the hospital until nearly ten o'clock. I found the patient exhausted, and suffering so terribly that I feared she would go into convulsions, notwithstanding the fact that a little chloroform had been administered. I have since been told by Miss McKellar that she never before nor

since saw a patient suffer such agony for an hour. I ordered chloroform to be administered to the surgical degree as rapidly as possible, while I was preparing. I introduced first fingers, then whole hand, into the vagina, dilated the cervix with fingers and hand, rotated so as to bring occiput to the front, applied the forceps and delivered, operation being completed at eleven o'clock. The patient made a good recovery.

I want you to notice especially, in connection with this report, that great efforts were made by Miss McKellar, Dr. Smith, and, to some extent, myself, to get the woman to exert herself as much as possible with the hope of hurrying the onset of labor pains. I have lately come to the conclusion that such efforts are decidedly injurious. I think that the patient should keep as quiet as possible, and, generally, in bed. I would not say that it is always necessary for a woman to remain constantly in bed, especially when the membranes rupture many days before labor commenced; but I certainly think that she should keep as quiet as possible, and not do anything which is likely to make her tired. I think that, in this instance, the terrible nerve storm which attacked this delicate little woman was to some extent due to the fact that she was partially worn out before the pains commenced.

Kennedy McIlwraith's case. Primipara. Membranes ruptured a week before labor. After onset of labor pains went on fairly well. Child expelled normally with occiput to the front. The labor would have been quite uneventful except for the accident of a somewhat bad rupture of the perineum, which was restored by immediate operation.

I mention this case simply to show that what one might call an extreme form of dry labor may occur without any serious complication.

Primipara at Burnside. Labor forty hours. Liquor amnii discharged thirty hours before delivery. Occiput posterior. Under an anæsthetic hand introduced into the vagina and unsuccessful effort made to bring the occiput to the front. Applied the forceps, delivered, occiput remaining posterior. I may say that I think the patient, in this case, was not well managed, and would not be treated in the same way to-day. Without going into full particulars I can tell you briefly that

she should have been delivered about ten hours earlier, instead of waiting until the soft parts were fully dilated and the head jammed down in such a way that rotation was impossible. Chloroform should have been administered sooner, the parts should have been dilated artificially, malposition corrected, and the child delivered by forceps.

Before speaking of treatment I wish to refer to a few points in connection with my last twenty-one cases. In eleven there were difficult occipito-posterior positions; in five there were occipito-posterior positions with natural rotation of occiput to the front; in five there were occipito-anterior positions. I am not certain as to the exact truth in the last two sets of cases, that is, the cases of occipito-posterior positions which rotated naturally to the front and the ordinary occipito-anterior cases. There must generally, or frequently at least, be some doubt whether an occipito-anterior position was not originally an occipito-posterior. By external examination we can nearly always discover at once whether the occiput points to the left or right, but we cannot always decide with certainty as to whether it points to the front or the rear. By internal examination we cannot get any information on this point in a fairly large proportion of cases early in labor, because we cannot reach the presenting head.

In difficult occipito-posterior cases the occiput was rotated to the front manually in seven cases and kept in such position until the forceps were applied. The occiput was manually rotated to the front, but slipped to the rear again while the forceps were being applied, in two cases. The occiput could not be rotated to the front without too much violence in two cases.

Treatment.—Before giving definite rules as to treatment, I will make a few clinical remarks regarding two cases occurring within the last month.

A. B., I-para. Membranes ruptured at 9.30 A. M. Seen by me 10.45 A. M. Patient had had no pains. By external examination the back of the child easily discovered on mother's right, and slightly posterior. Within a few minutes I was able to make the following diagnosis. Dry labor, head presenting in second or third position. By internal examination I could make out absolutely nothing as to presentation.

I refer to this particularly because I fear that examination during pregnancy and labor by external abdominal palpation is not employed in this Province to nearly the extent that it should be. This particular case furnishes an instance, by no means infrequent, of the vast amount that may be learned in the easiest possible way by external examination.

I have made my diagnosis, in part at least. What is my prognosis? The condition is serious, I think of the various dangers to which I have alluded, and I desire to avoid them. I have no idea that I can make the labor easy, but I feel that I can guard against most of the dangers, if not all. I order rest and quiet as much as possible. The patient told me she would like to get up "to look after a few little things." I agreed at once, largely because I did not wish to lay down iron rules which might cause some exaggerated views as to dangers, and thus cause alarm in the patient. At the same time I told husband and nurse I wanted none, or as little as possible, of that "moving about" which is so dear to some midwives and accoucheurs. She got up, put on a wrapper, looked after her "few little things" and returned to her bed. An enema was then administered. When slight pains commenced at 1 P. M. three doses of chloral were given at intervals of twenty minutes, and appeared to afford some relief. At 3 P. M. some dilatation of the os, occiput to the right posterior. At 5 P. M. a little chloroform during pains; occiput apparently coming to the front, uterine contractions accompanied by severe pains. At 6 P. M. chloroform almost to surgical degree; occiput found to be anterior, os fairly well dilated. Chloroform to obstetrical degree another hour. At 7 P. M. chloroform to surgical degree, forceps, easy delivery, Placenta separated in about fifteen minutes, expressed in twenty minutes. Uneventful recovery.

In this case it appeared to me that the rest, the chloral and the chloroform all did good. In addition, I think the applications of the forceps and delivery fairly early prevented spasm of body or neck of uterus and also the nervo-muscular storm which might have ensued if operative interference had been delayed for one or more hours.

III-para. Pains commenced at midnight, membranes

probably ruptured in about half an hour. Saw her first at 1.45 A. M. Nurse gave her a hot bath and enema. The patient was then kept quiet in bed. I do not wish you to think that I consider that in all prolonged labors the patient should be kept constantly on her back in bed, but I think it is never wise to put the patient through any vigorous course of gymnastics, walking or otherwise, for the purpose of bringing on labor pains. I have a firm conviction, however, that in all cases of dry labor it is especially important to keep the patient as quiet as possible without going to any absurd extremes in the matter.

I refer especially to this point on account of the fact that many of our best and most conservative obstetricians have laid down rules directly opposite to those which I am now giving. For instance, Galabin, one of the best obstetricians in the world, says that in the interval between pains the patient should be "up and moving about as much as possible."

Pains became fairly strong about three o'clock and were accompanied by much suffering. At 3.30 and 3.45 chloral given in fifteen-grain doses. After four, pains were exceedingly severe with very short intermissions. The chloral had done absolutely no good. What should one do now? Would it be well to keep the patient again in a hot bath and then given her a hot douche, for instance, a solution of lysol, for some fifteen or twenty minutes? No. Under such circumstances the hot bath and the hot douche are absolutely worthless, the storm is coming on and will soon be in full force unless you act promptly and vigorously. At 5.30 chloroform given to the surgical degree by Dr. Hutchinson. Chloroform had a marked influence on cervix, vagina, and perineum. Parts were dilated by the hand. In a few minutes forceps applied; easy delivery. Mother and child both did well.

After what I have already told you in connection with these cases which I have reported, I may give my general directions as to treatment somewhat briefly.

Directions as to Treatment.—Put the patient in a hot bath and administer an enema. I need say nothing special as to these procedures because they should be carried out as a matter of routine in all cases of labor.

Keep the patient quiet in bed. While it is not necessary to consider this an absolute rule I think it well for you to bear in mind the fact that excessive fatigue, or even a slight amount of weariness, may do considerable harm in all cases of dry labor, as I have before pointed out.

Give chloroform to the obstretrical degree when the pains become very severe. It is not easy to give any definite rule as to how much chloroform should be administered in such cases. We must always bear in mind the fact that the administration of large quantities of chloroform may be followed by very serious results, especially by post-partum hemorrhage. Having this in view we ought to be exceedingly careful about the administration of chloroform early in the first stage, or perhaps at any time in the first stage.

I have already referred to certain cases in which the dilatation could be very much hastened by manual interference while the patient was fully under the influence of the anæsthetic; but one does not like to give much chloroform when the os is very slightly, or not at all dilated.

If it happens, however, that you see a patient who has been in dry labor for many hours, and find that she is considerably exhausted, and that there is, at the same time, spasm of the cervix or Bandle's ring, or of the whole body of the uterus, chloroform may be administered as follows: Administer chloroform to the surgical degree perhaps for twenty minutes. The patient may shortly afterwards waken, feel much refreshed, and the spasm may be greatly or wholly relieved. In other cases it may be well to give chloroform for a short time, followed by hypodermic injection of morphine, allowing the patient to have a comfortable sleep, after which the condition will be found to be greatly improved.

Make it a rule always to terminate labor as soon as possible, even when there is considerable rigidity of the perineum, vagina, and cervix. Remember, as I have before told you, the administration of chloroform nearly always makes a vast difference; the parts become, if not dilated, much more dilatable or stretchable than they were. After the patient is completely anæsthetized introduce, first, fingers, then hand slowly into the vagina. Dilate as rapidly as you can without using

any force which is apt to injure the parts. Then dilate the cervix sufficiently to allow the hand to pass into the uterine cavity.

Manual Rotation.—Seize the head between the thumb on the one side and the fingers on the other, and rotate the occiput to the front; at the same time, with the external hand push the shoulder in the same direction in which you have rotated the occiput. When, as is most commonly the case, the occiput is turned to the right rear; the back of the left shoulder will be found above the pubes; with the external hand push the shoulder towards the mother's left side. If you succeed in pushing the shoulder over, the occiput will not slip back; if you do not succeed in moving the shoulder the occiput will very readily, as a rule, slip to the rear. If you are not able to push the shoulder with the external hand, it is sometimes a comparatively simple matter to push the internal hand on past the head and rotate the body of the child in such a way as to bring the shoulder in its right position, with the back of the child towards the mother's front, instead of towards the right side. If you are not quite certain that you have got the body of the child in the right position, and especially if you find the slightest tendency in the occiput to slip backwards, try and hold it in position until you have introduced one blade of your forceps. This will generally keep the occiput to the front until you have applied the second blade.

If you have applied the forceps deliver in the ordinary way, not too rapidly—at the same time without losing any unnecessary time.

I shall not here discuss the various methods of rotating the occiput to the front which have been described; I should simply say to you, if you know any better method than that which I recommend employ it. Years ago I was not successful in all cases in pushing the occiput to the front with my two fingers, as recommended by many authorities abroad. Having a small hand I often found it much more easy and much more satisfactory to introduce the hand within the vagina and employ it in rotating. So far as I know Batailliard was the first who definitely described this method of manual rotation of the occiput forwards. During the last few years this

method has been employed by a fair number of accoucheurs in the United States and Canada.

I do not intend to refer to any further extent now to difficult occipito-posterior positions, but I may say briefly that I consider that in the great majority of cases the most difficult of such positions are those which occur in connection with dry labor.



### FORMALIN IN A CASE OF SEPSIS.

PRELIMINARY REPORT BY WM. FRANCIS HONAN, M. D.

Attending Surgeon to the Metropolitan and Hahnemann Hospitals.

One day after the announcement in the daily press of this city, of the successful use of formalin solution by Dr. C. C. Barrows in an apparently hopeless case of puerperal sepsis, it was the writer's good fortune to be the second to try this procedure. The patient was a young woman about 28 years of age; she had no children, but confessed to previous induced miscarriages. About ten days prior to her admission to the hospital, she had again aborted. According to the report of Dr. Chase, who referred the case to me, she had had a high temperature and pulse rate, tympanites and some delirium for four days previous to her coming to the hospital.

When seen about two hours after admission her temperature was 104.3, pulse 132, respiration 34, abdomen developed, enormously distended and exquisitely tender to the touch, particularly on the right side. Both recti muscles were tense; this was especially marked on the right side, face pale, drawn, and anxious. General appearance decidedly septic. Vaginal examination showed uterus fixed, the right broad ligament infiltrated, left slightly so, and the uterine arteries pulsating violently. The pelvic structures were situated high, and with the great distention of the abdomen bimanual examination was difficult. It was decided to try the solution of formalin according to the formula of Dr. Barrows, and under chloroform and oxygen anaesthesia the right median basilic vein was exposed and 700 c. c. of a 1-5000 solution of formalin in sterile water was allowed to flow from a transfusion apparatus into the gen-

eral circulation. Examination of the pelvic contents did not add much to the result of the previous investigations.

Shortly after this operation the patient was seized with a chill which lasted some minutes, after which the temperature rapidly reached 105° and the pulse 148. Six hours later, much to our surprise and gratification, the temperature was 98.6°, pulse 104. Patient was passing gas freely, abdomen had relaxed, urine copious, and she declared she was very comfortable. On the third day all signs continued favorable, except a disposition to a slight rise in temperature and accelerated pulse. It was decided to do posterior colpotomy, as we now felt almost certain that there must be a focus of pus in the right broad ligament.

This operation was undertaken three days after the first injection of formalin, and about one ounce of fetid pus was evacuated from the right side of the pelvis in connection with the tube and ovary. At the same time 300 c. c. of the formalin solution was injected into the left median basilic vein. The beneficent effect noted after the first injection was not so pronounced after the second, though the patient gradually improved and is now practically convalescent. Examination of the blood before and after injections showed leucocytosis and presence of streptococci. The effect resultant from this treatment which was particularly marked, was the general improvement in the *morale* of the patient. She brightened up, her organs performed their functions well, she was entirely free from pain, the complexion cleared and a condition of depression gave way to one of decided cheeriness.

Experiences of this kind are at this writing extremely limited, and though little may be learned from one instance, some deductions may be made to guide us in future cases. I am convinced with Dr. Barrows that the formalin solution accomplishes more than does a simple saline, and that it has as well a decided action on the streptococci. The introduction of so much fluid into the circulation is of great assistance to the emunctories of the body, particularly to the skin and kidneys.

One very surprising feature was the effect upon the greatly distended abdomen and the rapidity with which intestinal peristalsis was reestablished. It furthermore seems applicable, not only to cases of acute puerperal infection, but to those cases

of fulminating appendicitis, septic cholecystitis, pyo-nephritis and other conditions where the heart and nervous system seem overcome by the virulence of the poison to such an extent as to render operative interference fraught with grave danger and expectant treatment hopeless.

The focus of infection must of course be removed or rendered innocuous, and future experience will probably show that this injection will prove of great serviceableness.

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## Current Comment.

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H. Moulton, M. D.:

The effects of prolonged lactation on the eye are properly the effects of anæmia and toxæmia. The exhaustion and anæmia are promoted by the flow of milk, care and anxiety, loss of sleep, lack of exercise and fresh air. General derangements of all the functions follow. Food is imperfectly assimilated; waste products are imperfectly eliminated. Toxæmia results. To the general weakness the milder and functional eye troubles are for the most part due. To toxæmia and accidental causes the more serious are due. Most prominent among the former is asthenopia. This may be confined to the retina, which is easily exhausted from poor blood supply to itself or the brain. Near work is impossible or difficult from fatigue. We may have concentric narrowing of the fields of vision, blindness, paroxysmal loss of vision, especially preceding attacks of syncope. Most troublesome, however, is the asthenopia from errors of refractory or muscular imbalance; errors which in health may not have caused trouble, but which in an exhausted general state cannot be overcome by the enfeebled accommodative power. In many such cases properly adjusted glasses will relieve the eye strain and headaches. A load is lifted from the weakened nervous system and thus general recovery promoted.

In anæmia the conjunctiva may be pale as are the other tissues, but a striking fact is the great frequency of congestion of the conjunctiva from anæmias of all kinds. This is spoken

of as dry catarrh. Probably loss of sleep and insomnia are factors in its production.

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N. G. Vassar, M. D.:

I meet men of forty years' experience in the *practice of midwifery* who have never used the forceps. But they do not tell me of their fatalities, the prolonged waiting over tedious labor pains, or the intense suffering of the mother while in the throes of labor.

There was once a time when all these were taken as a matter of course, when women were led to believe that because of the sin of Eve all were born to endure more prolonged and tedious labors. But now most of our women will not have so much patience; they know full well that there is a way of escape, and after having hard pains six, eight, or ten hours, and no delivery, they now naturally expect the attending physician to step in with chloroform and forceps and relieve their suffering. In all my experience I never have had bad results happen to either mother or child through the use of these instruments of humanity—a mother's friend.

Regarding remedies which will make labor easier for the mother, I will say that I have tried most of them, which have often been highly vaunted by others, only to find them "weighed in the balance and found wanting." If there is anything good it may be possibly pulsatilla, macrotys, and nux; but there are so many misleading conditions to be met with in a parturient patient, that we can scarcely expect more from the use of drugs than to aid in keeping the general health fairly good till labor sets in, and relieves the existing physiological condition. I will confess that I have seen nausea, vomiting, pains, weak back, etc., of the pregnant woman, fade away by the use of specific rhus, nux, and pulsatilla, and the patient seemingly benefited in the way of general health, but in the end, when it comes to shorten delivery or lessen one pain, they prove disappointing.

I never wait long to deliver the after-birth, but in fifteen or twenty minutes after the child is born, I take hold of the cord with one hand and by Crede's method with the other I deliver

it at once. I have never failed as yet, nor have I had puerperal fever to contend with from retained fragments.

It may that the use of gelsemium and macrotys during labor has given me such excellent results in post-partums, for I imagine that there is a difference clearly shown in those who have been under the influence of these drugs from those who have not, when it comes to placental delivery. Chloroform does just as well or even better, but you will have more hemorrhage. I have seen child, placenta and all, delivered in a heap, and a hemorrhage follow that was simply alarming after this agent had been given during labor. I have seen this many times, and still use it, and have had no fatalities from its use,

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C. J. Cullingworth, M. D.:

If asked upon what points I should principally rely in diagnosing *diffuse intraperitoneal hemorrhage* I should be disposed, in the light of my own experience, to enumerate the following:

1. The fact that at the moment of the attack the patient was in her usual health. This circumstance would render it highly improbable that the symptoms were due to gastric or intestinal perforation, or to rupture of an internal abscess or suppurating cyst.
2. The gradually increasing pallor of the patient, and the gradually rising pulse-rate (without corresponding rise of temperature), both being indicative of internal hemorrhage.
3. The extreme tenderness of the abdomen. To this symptom I have learned to attach a very special value. It often misleads the medical attendant into supposing that there is acute general peritonitis. It cannot therefore be too strongly insisted upon that marked and even excessive abdominal tenderness does not necessarily indicate an inflammatory condition. It is met with, for instance, over ovarian tumors when, as the result of rotation of the pedicle, they have become the seat of hemorrhages, intracystic and intramural. It is quite true that peritonitis is a not infrequent later result of this accident; but this marked tenderness may be observed when, on opening the abdomen, there is no visible sign of inflammation.

4. If a menstrual period has been missed or is overdue the diagnosis of the case is greatly facilitated; but it does not follow that because menstruation has been regular rupture of an ectopic gestation may be excluded. For some of the most appallingly sudden cases of rupture occur (as I hope to point out later) at a very early stage of the pregnancy, even, it may be, before a single period has been missed. Hence arrested menstruation is not essential to the diagnosis, though when present it is a valuable help to it. If, in addition to the arrested or delayed menstruation, there is morning sickness, the diagnosis is even further facilitated. But after all these signs of early pregnancy do not prove very much. They do not even prove that the pregnancy, if present, is ectopic, or that, whether it is or not, it has anything to do with causing the present illness. All that can be said is that when symptoms are present that suggest the possibility of a ruptured ectopic gestation, these signs of pregnancy serve to confirm the suspicion.

There still remain one or two other points of diagnosis of less importance.

It is frequently stated in text-books that when there is intra-abdominal hemorrhage there will be the usual signs of the presence of free fluid in the peritoneal cavity. In a case of very extensive effusion, and in a patient without much fat in the abdominal wall, it may be possible to obtain evidence of fluctuation and of dullness in the flanks, shifting on change of posture, but such evidence is not usually forthcoming.

Lastly, a word must be said as to the evidence obtained by vaginal examination. Here, again, the signs are not very definite. There is no distinct circumscribed swelling to be felt, as in the case of encysted effusions (pelvic hematocoele). All that can be made out is a full and boggy condition of the pouch of Douglas, suggestive to the experienced finger of the presence of fluid or semi-clotted blood within the pelvis. but the symptoms denoting that a lethal hemorrhage is actually taking place are of chief importance.

There is very often a slight hemorrhage going on from the vagina, generally regarded by the patient either as due to the appearance of a delayed menstrual period, or, if she believes

herself to be pregnant, as indicating the probability of a miscarriage.

Owing to the gradual subsidence of the pain and the patient's freedom, as a rule, from anything like alarm about herself, the extreme gravity of the condition may easily be overlooked. In fact, it is more frequent to find that the medical attendant has failed to appreciate the danger than that he has made an incorrect diagnosis.

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L. V. Friedman, M. D.:

The question of "threatened" or "inevitable" *miscarriage* must remain always one of personal judgment in the individual case.

In all cases where a high temperature is indicative of sepsis, or where the pulse, in rate or quality, has been affected by the bleeding, the uterus should be emptied at once. Where neither of these conditions is present, and it is impossible to establish definitely whether the case be threatened or inevitable, partial or complete, the treatment should be directed to the conservation of the ovum, but with careful watching, so that if at any time the mother's condition becomes worse, the treatment may become radical at once.

To be more precise, when no part of the ovum is prolapsed through the os, or when the os is not sufficiently dilated to permit the finger to feel the intact or ruptured ovum within the uterus, if the patient's pulse be good in quality and less than 110 beats per minute, treatment should be expectant. Where miscarriage is not complete, seldom will one be obliged to wait more than twenty-four hours in order to see either an anatomical change which makes clear the diagnosis or change in condition which demands action. During this expectant period the patient may be left with safety in care of a nurse, or where this is impossible, can be seen once in six hours by the physician.

Having decided upon radical measures, we must proceed as the text-books direct. The tampon is seldom necessary in cases under four months, as the small amount of requisite dilatation is obtained with rapidity and with little bleeding. When it comes to the emptying of the uterus, instead of immediate

recourse to the curette, a large majority of the cases can be treated efficiently with the finger, thus leaving the uterine mucosa in a condition much more nearly resembling that of the normal puerperal uterus. The curette removing practically all of the deeper layers of the decidua serotina and vera, leaves little or none of the glandular element upon which depends the reproduction of the normal endometrium. Whether the subsequent imperfect reproduction is not the cause of much of the persistent endometritis which is seen, is an open question.

Almost every text-book describes the method of digital removal of the ovum and the use of the curette. I have found it very convenient to enter the uterus with the second finger of the left hand, allowing the shorter forefinger to extend outside of the cervix into the vaginal vault. I have never found ether necessary because of pain, but have used it where a rigid abdominal wall prevented the right hand from fixing and slightly depressing the fundus. Where the finger fails, the curette, always sterilized and at hand, is employed. I have found best a medium-sized sharp curette with so stiff a staff that it cannot be bent, except by exerting considerably more force than is permissible in using it. Only extreme carelessness can result in puncturing the firm-walled uterus of early pregnancy. An exception exists in cases where the uterine-wall is broken down by a sepsis of some days' duration.

Whichever method is employed, the uterine cavity should be irrigated thoroughly. I have used corrosive sublimate (1-5000), formalin (1-2 to 2 per cent.), and sterile water with equally good results, the quantity being more important apparently than the constituent. The uterus having been emptied, the cessation of bleeding is invariably instantaneous, except for the very slight lochial ooze. The use of rubber gloves causes so little inconvenience in digital maneuvers that their value for asepsis far exceeds the delay they may occasion.

It has been my experience that most women, either through design or unwittingly, underestimate the duration of their pregnancy.

Frequently in partial miscarriages at seven to nine weeks, I have found that a small tufted piece of chorion remains at-

tached to the uterine wall (that is, *decidua serotina*) and causes persistent bleeding; consequently, in very early miscarriages, this immature placenta must be sought. Here also may rest the ætiology of subsequent fibrinous mole.

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A. L. Smith, M. D.:

Judging from my knowledge of *placenta prævia* cases with threatening uræmic convulsions, I cannot see how anyone can justify himself in performing a Cæsarean section, for less in completely removing the tubes and ovaries with the uterus, as has recently been so strongly advocated by several obstetricians of the first rank. The only possible excuse which they could give is that when Cæsarean section is performed before the mother or child have been weakened by hemorrhage, the chances of the child should be much better than by version; but how are we to discover cases of *placenta prævia* before the hemorrhage begins?

Moreover, it is quite probable in my mind that if the child is viable it would have just as good a chance of surviving if delivered by version as when delivered by Cæsarean section. While for the majority of cases the child does not count for anything, for the simple reason that it is already dead or that it is not possible for it to live, no matter how it is delivered—while of the total removal of the uterus and appendages it is no excuse to say, as some of these authorities do, that the woman after having the case explained to her was quite willing that she must be rendered unable to have another pregnancy; a woman in that condition is a very bad judge of the advantages of maternity.

To the general practitioner who meets with this appalling hemorrhage, I would say "summon expert help immediately, and while waiting for him to come, to control the hemorrhage for a few minutes by means of clean handkerchiefs soaked in vinegar packed in the vagina; but failing to obtain assistance promptly I would advise the rapid but thorough sterilizing of the hands and a partial anæsthetization of the patient by another doctor, or even by an neighbor, with the A. C. E. mixture and then to dilate the os with the fingers formed into a cone, so that they fill the os pretty thoroughly. As soon as

the hand can be made to enter the uterus, grasp a foot with the right hand and assist the version by the left hand on the abdomen; there will, as a rule, be no more hemorrhage after the soft plug formed by the child's thigh and buttock covers the bleeding sinuses." The cause of all the deaths of the mother, and they are not many under this method, and of many of the deaths of the viable child, are not due to the method, but to the delay in employing it, and these conditions are as essential in Cæsarean section for its success, both as regards the mother and the child. Even in a primipara with the os closed it is invariably softened by the pregnant condition, so that in twenty or thirty minutes at most first one and then two and then three fingers can be bored into the uterus, until the constricting muscles are tired out and the whole hand can be passed in. The hemorrhage almost always stops the moment the foot is drawn down.

I would also like to say a few words about convulsions. I believe that more women have died from the remedies usually employed than from the disease; I mean the prolonged use of chloroform and chloral. By the hypodermic injection of half a grain of morphine followed in ten minutes by the hypodermic injection of twenty-five minimis of tincture of veratrum viride, I have in my last three cases at once brought the pulse down from 160 to 50 or 60, and the women had no convolution later than ten minutes after. My former assistant, Dr. De Cotret, now director of the largest lying-in hospital in Canada, who introduced the veratrum treatment at my request, tells me that he has had thirty-eight cases of eclampsia without a death of a mother.

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J. Wesley Bovee, M. D.:

The use of vaginal pessaries is not of recent period only. We find references to the use of them early in the eighteenth century, and I have no doubt of their much earlier use.

There can be little doubt in the mind of any observing physician that the value of *vaginal pessaries* has been remarkably overestimated, and that their application has been frightfully prolific of great physical injury.

The conditions for which pessaries are applicable are chiefly

in relaxation of the roof of the vagina with or without endometritis, subinvolution, metritis, or uterine displacements. We often find uterine retro-displacements due to general weakness of the individual. There can be no question but that in these cases, when symptoms are present requiring treatment, the application of a well-fitting retroversion pessary with general treatment will usually effect a cure. In such cases it acts, as is always the case as an adjuvant. That it permits an increased amount of exercise, which has not only a general action, but improvement of the uterine supports, is apparent. When this has progressed to a sufficient degree the pessary is no longer needed. Should endometritis or metritis accompany the displacement, little can be expected from treatment that leaves out a good position of the uterus for drainage. Curettage with the application of a pessary is indicated. Of course, metritis is not always relieved in this manner, as some cases never recover without hysterectomy. But this treatment should be first tried. Ofttimes the ligaments of the uterus are relaxed from patients being kept too long in bed on their backs following parturition. The uterus is very heavy, strains the ligaments supporting it, and, its circulation being interferred with, involution is slow and may be interrupted. The pessary here does good by supporting the uterus in a proper position, and thus facilitating other remedies and methods of causing a return to normal conditions.

Various forms of uterine displacements are subjected to surgical procedures, and in these operations is found another use for the pessary. In the Alexander-Adams and other round ligament-shortening operations, the ventro-suspension of the uterus or the shortening of the utero-sacral ligaments and the plan of changing the site of attachment to the uterus of these ligaments as well as the anterior vaginal wall, all done for retro-displacement of the uterus, the auxiliary action of the retroversion pessary is often imperative.

To these may be added cases of injuries to the pelvic fascia from parturition, in which operation cannot be advisably done. In such the use of the pessary must be invoked. As to the ante-version pessary, I have little use. The glass ball and soft rubber pessaries are never employed by me.

J. C. Walton, M. D.:

The following case illustrates the use of *galvanism* in a very intractable *case of hemophilia*:

Mrs. S., age forty, mother of six children, one miscarriage, last labor ten years ago. Since then had been constant and at times profuse hemorrhages. Extremely pale and anæmic, weak and confined to bed. Examination showed a large, retroverted, subinvolved uterus, spongy and full of granulations; depth of cavity almost six inches. Gave routine treatment, including curettage and packing, all failed utterly. Patient's condition gradually grew worse, and as a dernier ressort tried electricity, after consultation with a most eminent surgeon who ridiculed its use, and could suggest nothing but the orthodox remedy which we had already used. The first treatment (150 m.) very promptly and decidedly checked the hemorrhage. Afterward I continued the treatment, giving 50 to 75 m. every third day. This treatment I continued for about six weeks, with the result of reducing the depth of the uterus to three inches, the uterus returning and remaining in its normal position. The hemorrhage checked entirely, and patient has been in perfect health ever since.

A hot douche of sterile water should always be given after treatment and the patient kept in bed about twenty-four hours. I consider the above case of extraordinary interest in view of her being a "bleeder," and a very few years previous, almost dying from hemorrhage, resulting from the simple extraction of a tooth.

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W. W. Gleason, M. D.:

Mrs. S. had had several children, and invariably a *breech presentation*. I know what to expect when engaged to attend this patient. She has no trouble during her pregnancy until the last two weeks. The abdomen is then of peculiar ovoid shape, the long axis directly crosswise from side to side. About fourteen days before the natural term of birth severe labor pains develop. Sometimes the bag of water has broken at this time. Pains continue for twenty-four to forty-eight hours, and then under indicated remedies, *pulsatilla*, *cimicifuga*, *belladonna*, the pains cease and all goes on favorably.

She attends to her housework as usual until full term, when labor pains come on naturally, and in from eight to twelve hours the child is born. As I have previously said, the presentation is invariably breech.

I do not now interfere in the least with the method or procedure of birth. In her first labor I tried to produce version but could not. Since then I have always allowed nature (for I think that in the case of this woman it is natural) to take its course, and I have had no serious complications to meet. This woman, when quite young, had one ovary removed. Can it be that this circumstance has anything to do with the peculiar nature of the presentation of her children? The cause of her having an ovary removed (probably removal was unnecessary) was severe ovarian neuralgia at the menstrual period, every other month. Since then she has been in ordinary good health.

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W. A. Briggs, M. D.:

Those who have had the pleasure of reading Maeterlinck's charming book on the "Life of the Bee" will call to mind the parallel that may be drawn between man and that insect with its almost infinitesimal brain, not always perhaps to the credit of man, either. The almost perfect social economy which has been developed by these insects, which far exceeds our own social economy in perfection, is certainly remarkable. There is another thing which has struck me forcibly, and long before I read Maeterlinck; this parallel came up in my mind a good many times: The ovum of the queen and the worker are identical, and up to the third day of life they are under identical conditions. After the third day, however, the worker larva is fed on coarser food—honey and pollen,—while the queen larva is fed upon different food altogether, more carefully prepared, a nectar, as it were, and fed in that way until a certain period in existence, when she feeds herself. That difference in feeding makes all the difference between the queen and the worker. The queen lives five or six years, and is a fully-developed female, while the worker lives only seven or eight weeks, and is an abortive female; in other words, we have three genders in the economy of the bee,

namely, male, female, and neuter. Now, we are developing in the human race the same thing; we are developing an abortive female—an abortive form of mankind—which if it proceeds sufficiently far, we shall be compelled to call “it,” as in the case of the worker bee. The more we study the pathology of the human race, the more we find that we are developing a third gender in our race, corresponding to the third gender among bees. Women nowadays, in large numbers, are on the way to this third gender; hesitate at marriage; hesitate still more at maternity; and, if possible, yet more at nursing their unwelcome offspring. We shall have to develop a complete woman in order to make a complete mother, and it seems to me that we, as physicians, should exert our influence in this direction. Then, many women who are fairly-well developed have a strong prejudice against nursing their infants. This arises, no doubt, in part, from social reasons; it arises also, in part, from another cause, incapacity, and this has increased very much within the past fifty years. This is exemplified by the multiplication of infant foods and by our own observation of the number of women that are averse to nursing or are unable to nurse. It is not always the mother’s fault. We should, as far as possible, persuade women to nurse their infants. By doing the best we can in these directions, a large majority of women will nurse their children. If we can get them to nurse for a month, we will have accomplished a good deal; if for three months, we will have accomplished much more, getting the baby on a safe basis, particularly if the end of this period be in the early part of the fall. When we come to this contingent of women who cannot nurse their infants, we have two things to look to: First, the selection of a proper and suitable food, and, secondly, the prevention of gastro-intestinal infection. Of course, these two conditions are practically combined in one. In regard to the milk supply, the key-note should be cleanliness; from the cow’s udder to the baby’s stomach, all along the line, cleanliness. We expected a great deal a few years ago from sterilizing, and yet we have had a disheartening failure in this respect, except in rare instances or for a brief period.

G. L. Brodhead, M. D.:

The following are two cases of *hydramnion* with *prolapse of the cord*. McC., age thirty, V-para, giving a history of very short, easy labors, applied to the hospital on November 28, 1899, for care during her coming confinement. Upon examining the abdomen, the uterus was found markedly distended with fluid, so much so that the position of the fetus could not be made out, nor the fetal heart heard. The pelvis was slightly larger than normal. Labor began at full term at 1 A. M., December 19, and contractions were frequent and efficient. The membranes ruptured spontaneously at 2.30 A. M., a large quantity of amniotic fluid escaping. The patient was first examined at 4 A. M., at which time two loops of cord were found protruding from the cervix, the latter admitting three fingers. The position was R. O. P. and the fetal heart 160. By means of the examining fingers the cord was pushed back over the occiput, and the patient kept in the knee-chest position for fifteen minutes afterward, no further prolapse taking place. The child was born in good condition at 6.10 A. M., the cord being wound once around the neck, but the loop was easily slipped over the head. The advantage of the knee-chest position in cases of prolapse of the funis is very great, and when once prolapse has occurred, the patient should be placed in that position immediately, and kept there until the cord is replaced, or measures taken for delivery. In many cases the cord will slip back into the uterus and remain there, but if not, there is very little pressure upon it, while preparation is made for cervical dilatation and podalic version if such operations are necessary.

Knowing, too, the frequency with which the cord will prolapse, in cases of hydramnion, the accident should be guarded against, by keeping the patient in bed, and where rupture of the membranes is indicated, it must be very slowly done, in order to avoid a sudden gush of a large amount of fluid. It is best to place the patient upon her side, or elevate the hips, or use the knee-chest position, before attempting to rupture the sac. In this way, accident will be usually avoided.

The other case was that of B., age thirty-one. VI-para, came to the hospital on August 19, 1899, for examination prior to

confinement. Previous labors had all been easy and puerperiums normal. There was a moderate amount of fluctuation in the uterus, which was enlarged to the size of 8 1-2 months. The presentation was vertex above the brim, position R. O. A. The fetal heart was heard distinctly in the R. L. Q. of the uterus, and the pelvis was normal. Labor began on November 13, 1899, at 10 A. M., contractions being poor and inefficient. Upon arrival at 7.30 P. M., the house physician found the os fully dilated, and the membranes protruding in the shape of a bag to within two inches of the vulva. The head was above the brim, and ballottement was easily obtained. Between pains, the vertex could be easily felt high up, and there was no evidence of cord in front of it. The fetal heart could not be heard with certainty, but it seemed to be situated directly to the left of the umbilicus, and a few inches below. If it was present, it was too faint to be counted. At 8.30 A. M., the conditions were the same, the membranes were ruptured artificially, and a large amount of liquor amnii gushed out. It was immediately noted that the chord had prolapsed, and was pulseless. The patient was placed in the knee-chest position, and the cord replaced with the hand. After twenty minutes the head became engaged, and the patient was placed in the dorsal position. Vaginal examination now showed that one loop of cord had again prolapsed, but this was easily replaced and the head advanced, preventing further prolapse. The child was born soon after the replacement, but there was no attempt at respiration, nor was there a single heart beat. There was no maceration, and the death of the fetus had been very recent, but the exact cause was not definitely ascertained. The presumable cause of the pressure on the cord early in labor, the condition of hydramnion naturally interfering with the diagnosis, even when the bag of membranes was distending the vagina.

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Ernst Herman, M. D.:

If *diabetes* occurs in a woman of child-bearing age, it usually suppresses menstruation, and often produces atrophy of the uterus. In some cases, however, menstruation continues; such patients may become pregnant. Since diabetes in young

subjects is of a more severe type, those diabetic women who are still capable of becoming pregnant exhibit a dangerous form of this disease. Pregnancy aggravates it and hastens its progress.

If diabetes becomes associated to pregnancy, viz., if a pregnant woman becomes diabetic, the prognosis is more favorable, because the diabetes usually subsides after confinement. The effects of diabetes upon pregnancy and puerperium are extremely deleterious. In about two-thirds of the cases intrauterine death of the child was observed. Hydramnios is a frequent complication. During the lying-in death may supervene in the same manner as after operation, with the symptoms of coma and collapse.

The obstetrical management of diabetes with pregnancy is a very difficult problem. I believe that the termination of pregnancy, and that, too, at the earliest possible date, is the only course which can logically be followed.

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## *Book Reviews.*

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THE DISEASES OF INFANCY AND CHILDHOOD. By L. EMMETT HOLT, M. D., LL. D., Professor of Diseases of Children in the College of Physicians and Surgeons, etc. With 225 Illustrations, including 9 Colored Plates. Second Edition, Revised and Enlarged. D. Appleton & Co., New York, 1902.

The name of the author is sufficient to call serious consideration to any contribution he might present to the medical public, and the second revised and enlarged edition of his Treatise on Diseases of Infancy and Childhood will deservedly add to his reputation. The work is well written, clear, and with unmistakable evidences of a good clinician as being the writer. The chapters devoted to nutrition are particularly valuable and interesting and will be found to be most helpful in caring for infants to be artificially reared. Very few drugs are recommended and from our standpoint the only thing to make the work absolutely complete would be some indications for remedies homeopathically considered in chapters where therapeutics

is a trifle sparse, as, for example, in disease of the respiratory system.

**A MANUAL OF GYNECOLOGY.** By HENRY T. BYFORD, M. D., Professor of Gynecology in the College of Physicians and Surgeons of Chicago, etc. Third Revised Edition, with 363 Illustrations. P. Blakiston's Son & Co., Philadelphia, 1902.

This concise work on gynecology was originally written for the student and for the busy practitioner who does but a small amount of gynecological surgery. The third edition has been recast and much new material added so that it now represents a very practical manual, suitable for the needs of anyone desiring definite and specific instruction in gynecology. Of course, in a work of this size the descriptions are not lengthy or discursive; the author gives his own opinions and directions in terse, comprehensible language and with abundant references gives the reader suggestions where to find more exhaustive information. The work has the charm of personality, the writer apparently taking the reader into his confidence and talking to him. The chapters on gynecological technique and gynecological treatment are to be especially commended. They are minute in their details as to the duties of both physician and nurse.

**THE INTERNATIONAL MEDICAL ANNUAL.** A Year Book of Treatment and Practitioners' Index, 1902. Seventeenth Year. E. B. Treat & Co., New York.

This yearly offering has grown very necessary to the physician who wishes to keep abreast of the times. The volume under discussion maintains the very high standard of its predecessors. The articles are short, pithy, and full of information, so that its 675 pages become quite a medical library. It is, moreover, well illustrated with plates, some of which are colored charts, and more diagrams. Some of the best names in the medical profession in the United States and England are among the contributors of original articles.

**PHYSICIAN'S POCKET ACCOUNT Book.** By J. J. Taylor, M. D. Published by the Medical Council, Philadelphia.

This is a single book system which does not require a ledger as each account is made in ledger form, and according to the

author, "stands every legal test." It is further claimed that it enables the physician to prove his account in court, to collect from an estate; and further, enables the physician's widow to recover from his debtors after his death.

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## *Translations.*

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### ALBUMINURIA IN PREGNANCY.

In a woman who has remained perfectly healthy J. Veit found that the veins of one of the tubes, which contained a perfectly normal ovum, contained chorionic villi and cells of the Langham's layer (syncytium) of the ovum. On looking up the literature of the subject he found that this condition has been met with frequently, and is regarded by some observers as a normal one. He believes that the syncytium is carried into the maternal blood directly from the placental vessels, but puts aside a discussion of this question as comparatively unimportant as compared with that of the fact that fetal elements can penetrate into the maternal circulation. This fact led him to investigate the subject minutely, and he now publishes the results of his studies in the Berl. klin Woch. As Veit was struck by the similarity of the conditions in this case and in Ehrlich's experiments with the introduction of foreign blood cells into an animal, he proceeded to test the result of introducing placental tissue artificially into the body.

In order to exclude the action of hemolysin he rendered the placentæ as bloodless as possible, and introduced finely divided or pulverized placentæ (human and rabbit's) into the peritoneal cavities of rabbits; on a few occasions he injected suspensions subcutaneously and intravenously. Rabbits which received six placentæ taken from full-time rabbit's uterus always died in twelve hours. When he used three rabbit's placentæ or ten grams of human placentæ, the urine which was secreted was found to contain albumin. He had not yet been able to determine the minimal lethal dose, but found that seven grams of human placentæ was not always sufficient to kill. The albumin appeared in from forty to forty-eight hours, and disappeared in a short time after.

The actual cause of the albuminuria must be a toxic one, and he regards it as a "lysin," just as when red blood cells when introduced into a strange host produce a body which is capable of dissolving the red cells of the second species, which

is also a lysisin (hemolysin). The albumin—or, rather a fraction of the albumin—attaches itself to a "side chain" of the red blood corpuscle, and thus exercises its poison action. There is evidence that this poison is not specific, that is, other tissues can produce albuminuria in rabbits in the same way, for example, the introduction of portions of the umbilical cord and of muscle produces the same result. Further, he found that this body is not present in the serum, as can be shown when the serum of either artificially "albuminurized" rabbits or of eclamptic women is injected into test animal, for in this case no albumin appeared in the urine.

His experiments dealing with the antitoxin are not yet finished, but he succeeded in preventing the appearance of albumin after introducing human placenta, and in another case, in which he obviously did not employ a sufficient dose, the animal died with albuminuria and convulsions. He does not lay much importance on the fact of the appearance of the convulsions. It seems a reasonable suggestion that the cells of the peripheral part of the ovum play a part in the genesis of nephritis of pregnancy; and although he says that there is no ground for believing that the "deportation" of fetal cells, or rather of cells of the periphery of the ovum, can cause actual nephritis, we have to explain the fact that in eclampsia these cells are frequently present in the maternal blood, and that albuminuria has often noticed with hydatid mole.

A further important condition (which has been shown by Wychgel, who carried out the experiment at the request of Veit) is that in the pigmentation of the skin in pregnancy there is an excess of free iron, and Veit believes that this is due to the dissolving action of the syncytium on the red blood cells, which frees the hemoglobin. Wychgel also found an excess of iron in the urine of gravid women as compared with that of non-pregnant women. Following the matter further, he found that at times the serum of pregnant women contains hemoglobin, while in other cases the serum is turbid, and although it does not contain free hemoglobin, it nevertheless differs from that of non-pregnant women.

There are three possibilities which could explain the presence of iron in the pigment, etc.: (1) The toxic body, cytotoxin, may contain free iron. That this is unlikely is shown by the fact that while the free iron in the tissues can always be found in pregnancy, hemoglobinemia is seldom met with. (2) That the cytotoxins in the process of being cast off from the red blood cells produce such a damage to the latter that the hemoglobin is set free; and (3) that the cytotoxins act hemolytically. Against the last supposition he mentions that in test-tube experiments the serum of pregnant rabbits does

not act as a more powerful hemolytic than that of normal rabbits. He therefore is inclined to regard the second theory as the most probable. In conclusion, he points out that a further study of these phenomena is very likely to reveal important facts, and to lead to great progress in the direction of therapeutics. We must refer the reader for many of the details given in the papers to the original, as want of space prevents us from publishing a fuller account.

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## OBSTETRICS AMONGST THE LAPPS AND FINNS.

N. Christoffersen (*Tidsskrift for den Norske Laegeforening*) states that a Lapland woman, multipara, thirty-five years of age, was in labor for five days. During this time her relatives had resorted to the folk-remedies often applied on such occasions. The patient had alternately laid down and then walked about supported under each armpit by a "helper." Later she was subjected to a process known as "ryste." She was laid flat upon the floor, then lifted upward by the legs until only the head and neck remained upon the floor. In tedious labors the natives sometimes cut down a tree with forked branches. Into the fork the woman is placed, and then four men take hold of the trunk of the tree and vigorously shake the trunk and woman. It is unnecessary to add that the women fear and dislike this mode of treatment. On the fifth day of labor a doctor was sent for. He started immediately on receipt of the message, but when he arrived after an eight hours' journey it was only to find that the woman had died seven hours previously. A necropsy was made, and it was then seen that the "fundus uteri" was only 6 cm. below the "processus ensiformis," and the "contraction ring" was on a level with the umbilicus. There was a rupture on the posterior uterine surface, and the bladder was enormously distended and contained about a liter of blood-stained urine. All the internal diameters of the pelvis were diminished, and the fetal head was very large. The previous labors of the patient had been difficult. At the first craniotomy was performed. The second was very tedious, but the child was born alive.

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## HERMAPHRODITISM: SEX DETECTED POST MORTEM.

Westerman (*Nederland. Tijdschr. v. Geneesk.*) publishes an instructive history of a patient, aged thirty, who died of appendicitis. The patient's mother was not certain of the sex of her child, who had never menstruated. A necropsy was for-

tunately permitted. The mammary glandular tissue was not developed; the penis was two and one-quarter inches long; its prepuce did not cover the glands. The urethra opened into the perineum, whilst along the under-surface of the penis ran a groove (peni-scrotal hypospadias). From each side of the root of the penis proceeded a cutaneous fold. The two surrounded the urethral meatus and a small opening behind it, and united to form a posterior commissure. The second opening was small, and led to a canal which ran in the posterior wall of the bladder; there was an indication of a hymen. The hair was thick on the pubes and anus, and covered the inner side of the rudimentary labia, which did not contain testes. I left fallopian tube, two and three-quarter inches long, ran outward from the posterior wall of the bladder, with distinct fimbriæ, round ligament, and mesosalpinx. There was a slight thickening of the tissues at the site of the ovary. The thickened tissue contained no epithelium, follicles, or Pflüger's tubes. Only when the peritoneum was dissected off the back of the bladder was the uterus (under 2 in. long) and the vagina (3 in.) detected; the latter was pervious down to the small orifice behind the urinary meatus. After some difficulty Muller's duct was distinguished on the right side; it was only pervious for an inch or so at the abdominal end. In the right inguinal canal lay an open processus vaginalis, which contained a bean-shaped organ. On further examination that organ was found to be invested with a tunica albuginea. It contained a quantity of well-formed tubules, and a trace of epididymis was detected in the mesosalpinx. The tubules contained no spermatozoa. The patient was clearly a male.

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#### SYMPHYSEOTOMY SIMPLIFIED.

Cristeanu (*Ann. de Gyn. et d'Obstét.*), on the strength of experiences in two cases, urges great simplification of this operation. The necessary instruments are only a bistoury, forceps, a Reverdin's needle, and two pressure forceps. The forceps must always be applied before symphyseotomy, and if they fail to deliver the head, they must be left in place and the operation commenced. Infection in the mother is not always a contraindication and may save the child. The skin alone should be sutured, not the fibrous or bony tissues. Deep sutures are, Cristeanu declares, quite needless. A catheter need not be retained in the bladder. A simple aseptic dressing on the external wound is sufficient. Bandages round the hips and fixing of the patient are useless or mischievous. Cicatrization and union of the symphysis are in no way delayed by

movements, even from the first, and the patients can walk just as well if not kept with the hips fixed for some time. Infection of the wound is very probable when the thighs are brought together and fixed. Vaginal and even uterine injections are needed daily, and if there is distinct infection, the tampon must be applied to the uterus immediately after the operation.

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### THE TRENDELENBURG POSITION.

M. Jayle (*La Presse Médicale*) has shown that if there be anything new under the sun that novelty is not the Trendelenburg position. Elevation of the pelvis was practiced by ancient surgeons in operations for hernia. Roger of Parma and Salerno, who seems to have lived about the beginning of the thirteenth century, in directing how to prepare a man for herniotomy, wrote: "First let the patient be placed on a bench with the head and shoulders downwards, so that all the intestines may sink away towards the thorax. The hips and legs must be kept elevated." Roger clearly understood the mechanical advantages of this position. It is the falling away of the viscera from the pelvis that makes the elevation of the hips so convenient an aid in pelvic surgery. Roland of Parma and Brunns in the fourteenth century both give the directions detailed by Roger. But in 1749 an anonymous French author showed that Roger, Roland, and Brunns had copied Albucasis very freely without acknowledgment, and we now know that the Spanish-Moorish writers on medicine largely borrowed from classical authors whose works are lost. Hence elevation of the pelvis probably originated in the practice of Greek and Roman surgeons. Guy de Chauliac, in the fourteenth century, already admitted that elevation of the pelvis was practiced in Moorish Spain. Roland furnished his readers with an instructive drawing of a herniotomy, reproduced by M. Jayle; the patient's head is very low indeed; but M. Jayle also adds to his instructive article a woodcut of radical cure of hernia from the work of Scultetus. In this instance the patient's head and shoulders are depressed about as much and no more than when modern operators open the abdomen to remove a pelvic tumor. Ambroise Paré, in his directions for taxis in a case of scrotal hernia, directs that the patient be placed on a bed or table with his head down and his nates elevated.

The history of the reintroduction of this practice of raising the pelvis is probably well known to our readers. Freund in 1880 advocated the raising of the legs of a female patient by

two assistants as an aid to exploration of the pelvis for diagnostic purposes. It was in 1885 that Dr. Willy Meyer wrote his work on the practice of Professor Trendelenburg, who was accustomed to elevate the pelvis when placing the patient in the lithotomy position. The falling away of the viscera and the effects of the position on the circulation were strongly urged as highly advantageous to the operator. In 1888 Mendes de Leon strongly recommended the Trendelenburg position both for operations on the pelvic organs and for gynecological exploration. The simplified preliminary arrangements by fixing a chair in such a manner that the patient could be kept with the pelvis elevated during the operation without the aid of an expensive table specially constructed for the purpose.

At the present day the position is widely adopted. It is rightly associated with the name of a distinguished contemporary German surgeon, and perhaps, in accordance with general surgical nomenclature it might more simply be termed "elevation of the pelvis"; indeed, Trendelenburg himself employed the name *Beckenhochlagerung*.

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#### PSEUDO-PARALYSIS IN SYPHILITIC INFANTS.

Sherer (*Jahrb. für Kinderheil.*) discusses the paralysis which sometimes affects the limbs of syphilitic infants. This was attributed by Parrot to swelling of the epiphyses, and he named it "pseudo-paralysis." Sherer, however, shows that post-mortem examination of such cases often shows a normal condition of the bones and joints of the paralyzed limbs. He also mentions eight cases in which there was typical epiphysitis without any paralysis. Sherer's view is that the paralysis is due to toxic action on the cells of the spinal cord, either from the syphilitic virus or from streptococci, which frequently occur in severe cases of congenital syphilis. Although epiphysitis is often found, it is not to be considered as the cause of the paralysis. In two fatal cases there was no degeneration of the nerve elements of the cord, but masses of streptococci were found in the fine vessels, and the rest of the body was affected by the same organisms.

While metallic poisons like lead and arsenic produce degenerative changes in the nerve elements, toxins may produce complete paralysis without anatomical changes. Retention of the electrical reaction need not be a bar to a nervous origin of the paralysis. Paralysis is an early symptom, and often the first to indicate the constitutional disorder, and appears usually in the first month. Its onset is insidious. One limb is

found to require a stronger stimulus to make it move than the others; later it becomes limp and motionless. With regard to the combination of syphilis and sepsis, Sherer remarks that affections of the mucous membrane predispose to sepsis. The cocci enter either by ulcers of the mouth, or are swallowed and absorbed through the intestine. The presence of fissures or ulcers of the mouth interferes with sucking, and lowers the resisting power of the tissues. Hence in such cases the skin lesions may rapidly extend and offer opportunity for the entrance of septic organisms.

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#### MINUTE FETUS PAPYRACEUS.

Loennberg (*Monats. f. Geb. u. Gyn.*) publishes a short communication on a fetus compressus or papyraceus remarkable for its small size, as it measured only 17 mm., or about two-thirds of an inch, in length. The mother was 37, and had borne two children. She was delivered of a living child nearly 20 in. long and 7 1-4 lb. in weight, after five hours' labor. She was subject to mitral insufficiency, and during the later months of pregnancy had been troubled with tonsillitis and toothache, apparently alveolar periostitis. On the border of the placenta lay a flap of very tough tissue, over 3 in. long by 2 wide. The membranes of the well-formed part of the placenta were distinct from the tough flap, which included a little yellow body visible through a capsule of their membrane. The body was a minute fetus 17 mm. long; the lower extremities were very ill-developed; the umbilical cord measured over an inch in length, and was inserted on the surface of the tough flap, which was, of course, a placenta. There was a little liquor amnii around the compressed fetus. Loennberg mentions several recent cases of fetus papyraceus, noting that they were nearly all big enough to be conspicuous, so that they could not be overlooked. With his case it was otherwise. He reports (with drawings) Sunberg's case, published in the *Upsala Läkareför Förhandl.*, vol. iii, 1897-98, p. 560, where the fetus measured a little over 1 in., and resembled an almond shell. Undoubtedly many minute fetuses of this kind are overlooked.

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#### OPERATIVE TREATMENT OF CHRONIC PARAMETRITIS.

Von Ott (*Centralbl. f. Gynäk.*) finds that pelvic massage is only beneficial in certain cases of chronic parametritis. When there is abundance of cicatricial tissue such treatment is useless

even when continued for months and years. But the patient needs active treatment, as subacute attacks come on frequently in these cases and greatly impair the patient's health. The scar tissue compresses blood and lymphatic vessels and nerves and drags on the pelvic and abdominal viscera. Sterility is, of course, very frequent. To leave a case of this kind to chance is wrong, and Von Ott finds that there are means of relief. This practice is to divide the cicatricial bands freely; then each raw surface is closed by suture as in pylorostomy so that its short axis is made long. There is no rule for operating; much depends on the position of the scar tissue, but the principle remains the same, namely, division of the band and the insertion of sutures placed so as to counteract contraction of adjacent parts. The division of scar tissue in the broad ligament is specially difficult and dangerous, as not only blood vessels but also the ureter may be wounded. Hence a catheter should be passed into the ureter. Von Ott finds that as a rule the wounds made by dividing the scar tissue heal by first intention. He has operated on numerous cases for over three years with good results.

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#### MALIGNANT ANGIOEMA OF BREAST METASTASES.

Brohl (Monats. f. Geb. u. Gyn.) observed this condition in a woman, aged 26, who had borne one child six years previously and weaned it when three months old. When she was 23 a hard lump was detected in the right breast. Koetschan excised it and found that it was malignant, therefore one month later (November, 1899) he removed the breast and cleared the axilla. In September, 1900, the patient came under Brohl. Her general health was good, but around the cicatrix of the operation were extensive ulcerations involving the greater part of the anterior aspect of the thorax. It was adherent at many points and surrounded by hard, livid skin. At the patient's desire the wide ulcerated area was excised and the raw surface covered by transplantation. The axilla contained no metastatic growths. Seven months later, on April 30, 1901, a metastatic tumor was excised from the integuments over the right scapula and also part of the scar of the last operation. Fresh operations on the same scar were found necessary on July 1st and October 1st, 1901. The recurrent growths were purple, smooth, fixed, but not much ulcerated. On histological examination they, as well as sections from the ulcer excised in September, 1901, proved to be angioma malignum. In February, 1902, pains in the chest and left leg

set in. A small dark red tumor of the size of a pigeon's egg was detected in the left gluteal region. The patient died in March, 1902. The lungs were found to be full of metastatic deposits, purple colored and at some points as big as a pea. This case is the first instance of angioma mammae with metastases. Eleven cases of this form of tumor were published by G. B. Schmidt; in all the patient was in robust health, the tumor grew slowly, was painless, and extended freely over the skin, but never caused retraction of the nipple. The axillary glands were sometimes enlarged, without showing the structure of the tumor. Recurrence was rapid. These symptoms and the absence of cachexia as well as pain distinguished angioma from carcinoma.

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#### CANCER OF UTERUS AND OF STOMACH.

Krönig (Centralb. f. Gynäk.) performed total abdominal extirpation of a uterus, dissecting away several pelvic glands, which proved on microscopical examination to be free from cancer. The malignant disease was confined to the cervix. Recovery was rapid, but after a few weeks the patient began to suffer from severe vomiting, and a tumor was felt in the region of the stomach. The ejecta were alkaline, and the motor functions very bad; articles of light diet were found undigested after remaining several hours in the stomach. Krönig therefore diagnosed cancer of the stomach, and at once resected the pylorus with part of the duodenum, and ended with a gastrojejunostomy. The patient recovered. The malignant disease seemed simultaneous in the cervix and in the stomach, where it appeared as an ulcer which involved a considerable part of the stomach itself, the pylorus, and a portion of the duodenum. Several cancerous glands as big as hazel-nuts were removed from above the lesser curvature during the operation.

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#### CHOLECYSTOTOMY AFTER LABOR.

Potocki (Comptes Rendus de la Soc. d'Obstét., de Gynéc. et de Péd. de Paris) operated under the following circumstances. The patient was a robust woman, aged 33; when she had passed the eighth month of her second pregnancy she was seized with pains in the right hypochondrium and flank, tympanites, nausea, and vomiting. Two days later she was admitted into hospital. There was a tender, prominent swelling in the right hypochondrium, with high temperature and pulse. Labor pains set in, and Potocki, diagnosing

cholecystitis, considered that delivery should be effected first. Though very ill from the complication the patient gave birth to a living male child 7 lb. in weight. The placenta was adherent and gave some trouble. The distended gall bladder was now more easily palpable. There was temporary calm, but on the next morning a rigor occurred, with temperature  $104^{\circ}$  and pulse 144. Cholecystotomy was performed. Pus and bile and a great number of minute yellow calculi came away, and the gall bladder was fixed to the wound and drained. Quantities of minute calculi escaped, but a big stone was found blocking the cystic duct. Dilatation and the use of forceps failed to effect its removal. Six months later Schwartz removed the gall bladder, as a fistula existed. The large calculus had completely blocked the cystic duct. Potocki notes that pregnancy greatly favors biliary lithiasis.

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#### PUERPERAL INFECTION: TREATMENT VERSUS OPERATION.

Perret (*L'Obstétrique*) reports on 127 cases of puerperal infection treated in Tarnier's isolation wards. Forty-eight were already infected when they were admitted. Of these, 1 (very septic) died; thus the mortality was 2.1 per cent. Out of the 79 where sepsis developed after admission, 1 died, and it happened that in this case a hospital surgeon advised hysterectomy, and the patient was sent to a general hospital where it was performed. Thus the mortality was 1.26. As 1710 women were delivered in Tarnier's wards during the period that these cases of infection occurred, the mortality from puerperal sepsis beginning in hospital was as low as 0.05 per cent. The curette, antiseptics, and subcutaneous injections of serum were freely used, and nutritious diet preferred to tonic drugs. The patients were kept in as cheerful a state of mind as possible and never left alone. Perret dwells on the question of hysterectomy in puerperal septicæmia, a question by no means clearly defined. He concludes that some day either hysterectomy will be performed as a routine measure directly the sepsis is recognized, or else it will be done late, when symptoms have grown severe. If the first course be adopted many a woman will lose a uterus that she might have kept and yet recovered; if the second be followed, Perret is of opinion that the results will not be superior to those which he records where the uterus was let alone.

# THE HOMEOPATHIC JOURNAL OF OBSTETRICS, Gynecology and Pediatrics.

EDITOR, WM. FRANCIS HONAN, M. D.,  
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## PROPHYLAXIS.

BY G. FORREST MARTIN, M. D.

"An ounce of prevention is worth a pound of cure!"

Truer words were never spoken, and they apply with especial fitness to our thoughts to-night. The practice of medicine is undergoing constant change. The new of to-day is the old of to-morrow. The specific of to-day is to-morrow cast aside, and some newer and sometimes better expedient takes its place.

The book shelves filled twenty years ago with the best medical volumes that money could buy, possess a value to-day more as curiosities than as every-day working tools. We are forever restlessly reaching out for the new, and eagerly grasping at each fresh offering. New books by eminent masters, and articles of value filling the pages of our medical journals, new foods, antiseptics and antitoxins for this and that condition, and various appliances for the alleviation of one or another form of suffering, are brought before us in rapid succession. Possessing more or less merit, the majority of these appeal to us as at least worthy of honest investiga-

tion. But who can follow them all? Fifty years ago the family doctor was an oracle. His word was law, and his verdict was final in the household. And with good reason! They were grand men! There were many Weelum MacLures and Doc Sifers in those good old days.

To-day, how different! The medical student leaves college with his head full of ideas and methods which he is anxious to put into practice. In five years, if he is honest with himself, he is glad to spend time and study for some better ways than those he knows. In ten years, if he has been fairly successful in acquiring a practice, these problems have become so numerous and so perplexing that he finds himself seriously debating the question of whether he would not better become a student of medicine.

To be a busy practitioner, and at the same time to keep up to the standards of work which our laboratories and our literature are setting up for us, is a physical impossibility! And so we get specialism in medicine! And in nearly all of our large cities we can find men and women, who, by prolonged and persistent work and study in some certain line of practice, are in a position to select for us the best line of procedure for our troublesome cases. The division into specialties may be a necessity and decided benefit to both physicians and public, and the present rapid development in all lines seems to demand it. But there is one specialty which I have never seen adopted by any individual physician, and which might well be taught by a separate chair in our medical colleges. I refer to "prophylaxis" or the prevention of disease.

This branch of medical practice should receive more attention than it does from the rank and file of our profession. The study of the wily microbe may be more alluring, the skillful wielding of the scalpel more fascinating, and the correction of a chain of disease symptoms by a carefully selected dose of medicine more apt to appeal to the public. But the saving of a life, by guiding it into safe paths, is certainly as worthy of praise as if we had drawn it away from those of danger! Victories are not all won on the field of battle!

Abernethy declared that "it is due to our ignorance alone

that there is any necessity for instruments in the cure of disease."

Are we prepared to follow him to this extreme point of view? Not quite, I think! To put his meaning into other words, it might read, "The immense amount of work which the surgeons have to do to-day comes to them because the medical men neglect their duty, or fail to equip themselves to meet disease in its earliest stages." Even this statement may be overdrawn, and would do some an injustice. But I think I am quite within proper bounds in stating that many, yes, most of the major operations would be unnecessary, were treatment instituted earlier in the ease, in the proper direction.

My one appeal to my brothers and sisters in the profession to-night is simply a plea for more care of the earlier manifestations of disease, and more freedom in the administration of wholesome and judicious advice which will prevent disease and the perversion of healthy functions.

A stranger entered my office last week, seeking a prescription for a "cold."

He mentioned a well-known physician as his regular medical adviser, and then added, "I am not sick enough to get any attention from him!"

His meaning was plain, and I have good reason for believing that the criticism was well deserved. But what an arraignment! I should smart under such a lash!

It has been my fortune, for the past nine years, to preside over the health of from thirty to fifty children, in a well-known children's home. Naturally, they have not the best of constitutions. And yet, so carefully are they guarded, and so promptly is every slight symptom of disorder reported, by the excellent woman whose motherly care for these little waifs makes her the ideal matron, that there have been but two deaths in this large and constantly changing family in over ten years. One of these was from double pneumonia, in a tuberculous child, and the second was from diphtheria in a little boy of four. He was one of 11 cases sick at the time with diphtheria, and died on the twenty-second day of paralysis of the heart.

I ask if prophylaxis here has not proved to be well worth the effort?

We are probably all ready to accept tuberculosis as a preventable disease, but are we all doing what scientific minds have shown can be done, to prevent the spread of this terrible scourge? The former idea of inheritance of consumption is now replaced by the belief in the transmission simply of a depraved, we may say, a de-vitalized constitution, which renders its owner more susceptible to successful invasion by the germs of the disease.

Our message then, to the trembling patient, whose mind is fully made up, because her family have all died of consumption, that her fate, too, is sealed, is one of cheer and comfort. There is no room for the fatalist among physicians!

Cancer cannot be classed as a preventable disease, although early attention to tears and cracks of uterus and breasts would undoubtedly reduce its mortality one half.

Scientists have succeeded in living in perfect health, in the worst of malarial swamps, by simply protecting themselves, day and night, with fine netting, while the natives of the region shivered and died from the bites of the poison-bearing *Anopheles*.

Dr. A. B. Norton, in a recent article in the *Atlantic Monthly*, is responsible for statistics showing that 33 1-3 per cent. of all blindness is from preventable causes, and 38 3-4 per cent. from those possibly preventable. What an arraignment of —somebody! Then there are the headaches, dosed with heart-straining "headache powders," the spinal irritations, mental depression, insomnia, and a long train of similar evils, due to neglect of eye strains.

Are we raising our voices in protest, in our several communities, against the outrageous abuse of the eyes in our public schools, and in the home-study which is required at the expense of recreation hours? What a child under fourteen years of age cannot learn at school, would much better go unlearned! Home study is a curse to the average growing child!

A foreigner's criticism of our methods—that "we are rais-

ing up a race of intellectual giants, but physical pygmies"—is not altogether undeserved.

Early attention to throat and nose obstructions will prevent many cases of deafness, of cramped chest and irritated bronchi; and the removal of adhesions and constrictions of sensitive organs will prevent many a case of nervous disorder or depraved morality.

Careful medical inspection of the children in our public schools, directed by common sense and a single incentive,—the public welfare,—would cut off many an epidemic, and cut others in two!

Coming to a matter of present-day interest, we learn, regarding Dr. Lorens' work upon congenital dislocation of the hip, that it is only the cases which are operated upon in their early years that can be benefited by his manipulations.

And so we might go on, through every organ and tissue of the body, and find good reasons for early attention to their various disturbances.

But I will dwell only on one more, and that, one which closely concerns this Gynecological Society. I refer to the increasing prevalence and severity of the so-called "diseases of women." Engendered in the mental worry, confinement and overwork of our girls in the schools, at the critical age of puberty,—nurtured by the increasing demands of society, and the deformities due to the system of dress in early maturity,—and culminating in the repeated abortions, or equally dangerous expedients to prevent their necessity, the whole train of evils is producing a condition of health in our women which has long since become the greatest curse of the age, and is truly alarming.

The title of "Doctor" means "teacher," and it is only custom that limits its meaning to the administration of drugs or the removal of diseased tissue.

Why, then, should we not be teachers, in the truest, broadest sense?

And to what better purpose can we apply our energies than to the correction of this great evil? We can at least be sure that our patients understand what they are doing, and what the remote consequence of their acts.

Consideration of the place, and of the nature of my audience alone, prevents me from speaking plainer upon this subject. Let us do our plain duty here, as true men and women, as doctors, and as well-wishers of our country and our race! The paths of duty are not the easy ones to travel, and it takes true courage to be a true physician! Robert Louis Stevenson calls the physician "the greatest hero and the most devotedly servicable of men".

"One sound comes always to the ear that is open: it is the steady drum beat of Duty.

No music in it, perhaps,—only a dry "rub-a-dub."

Ah, but that steady beat marks the time for the whole orchestra of earth and heaven! It says to you:—"Do your work,—do the duty nearest you!" Keep step to that drum-beat, and the dullest march is taking you home."—Merriam,



## RESUME OF THE PROGRESS OF GYNECOLOGY FOR THE YEAR 1902.\*

BY AMANDA C. BRAY, M. D.

It has been said that, as a specialty, gynecology is big enough to employ the ingenuity of any intellect, even though it be transcendently above the average. Dr. Samuel Johnson said, "Those who attain any excellence commonly spend life in one pursuit, for excellence is not often obtained upon easier terms."

Gynecology as a specialty has existed only a little over a quarter of a century, its development and growth has not been in a continuous upward line, but rather in ascending planes, each one reaching a higher and firmer level, and it is from one of these to-day we survey our ground and note the advancement made.

In no department of medical science have more eminent observers been at work, or more zeal developed with better results of conscientious labor; and the year of 1902 stands clearly as one in which there has been a thorough, serious and complete consideration of all that has been investigated and accomplished before.

In my research for advancement along the lines of gynecology this year I have found no awakening into special knowledge of particular diseases, no unfolding of Nature's secrets, no remarkable discoveries, but rather a maturing of existing achievements, and a more solid foundation of methods and vital ideas.

I am impressed also with the fact that there has been greater effort made along the lines of surgery than of medicine, and the rediscussion of the most familiar questions seems unavoidable.

Gynecologists are not like the Greek monarch who wept that there were no more worlds to conquer, nor yet like the savant who boasted that there was no more to be learned.

While much of the cause, recognition, and relief of the

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diseases peculiar to women have become crystallized, there is much to be done yet, and only by untiring devotion, constant application, and dissemination of knowledge gained, can the gynecologist keep and make the temple of woman's body well and strong, and earn a reward that shall place him only a little lower than the angels.

**Neuritis in Women.**—The increasing conditions of nervousness in women seem to be marching on at a rapid stride, and it behooves us, as gynecologists, to look to the nutrition and repair of the sympathetic nervous system as a means of restoration to health. Impingement of the terminal nerve-fibers of the sympathetic supplying the ovaries, Fallopian tubes, uterus, vagina, vulva, clitoris, bladder, urethra, rectum, tend to undue irritation and excitability and are a prolific source of over-sensitiveness, with its train of unhappy consequences in all the other parts of the sexual apparatus. Local feeding of accessible parts, electricity, massage, internal and external medication, are all of remedial value, and above all, regular and automatic habits. When women seek medical advice for some form of physical or mental derangement, whatever form their complaint may take, let us remember that the sympathetic nerve force controls the nutrition, function, and repair of each and all of the organs of the female pelvis; and if this force or vital power is disarranged a series of pathological transformations is inaugurated, having their beginnings in disturbed functions, congestions, and inflammations which in due time pass on to tumors, abscesses, cancers, and morbid conditions.

**Vaginismus.**—Vaginismus or hyperæsthesia of vulva can often be referred to the sensitive remains of the hymen, which may not bear the slightest suggestion of pressure without exciting painful spasms. It is usually considered a trivial condition, but the treatment should be radical at the outset: the induction of anæsthesia, complete dilatation of the introitus vaginalis and the excision of the ring of tissue which is the remnant of the hymen. The hemorrhage is apt to be profuse; all bleeding vessels should be tied, and subsequent hemorrhage precluded by the pressure of a tampon filling the entrance of the vagina.

**Eczematous Vulvitis.**—A condition usually associated with vaginitis, producing an irritation, especially in cold weather, and at night when the patient is in bed, that becomes intolerable, the suffering being so great as to cause hysteria or even insanity, is considered another trivial condition. The scratching and rubbing causes a great disturbance of the skin which may become dry, hard, and white like parchment or may exude a serum.

The vaginal douches, sufficiently astringent, either of tannic acid, alum, or hydrastis, afterwards covering the inflamed parts with a paste of subnitrate of bismuth mixed with glycerin so that it will adhere to the skin, will bring the disease under control, but must be continued as long as any symptoms remain.

**Uterine Displacements.**—Of three hundred women examined from two to ten months after delivery, the uterus was found retro-displaced in thirty-six, or twelve per cent. Eleven had no symptoms, the twenty-five remaining had symptoms due to complications other than the displacement; ninety others under treatment for retroversion were carefully observed with the view of determining how far their symptoms were due to this condition alone, with the result that in eighty-four other complications existed (pregnancy, menorrhagia, prolapsus) which were the real causes of their sufferings. The conclusion is reached that the symptoms usually ascribed to retroflexion—as dysmenorrhea, menorrhagia, sterility, and tendency to abortion—are more due to complications than to the displacement itself. If adhesions are present with exudate, or diseased ovaries, they should be treated, and after the pathological condition has been corrected as far as possible, the uterus should be replaced and kept in position by a pessary or an operation. To replace, place the patient in the genu-pectoral position that the weight of uterus and abdominal organs may assist; with two fingers in the vagina, push the cervix and posterior vaginal wall backward, and press the other hand from above into the pelvis just below the promontory of the sacrum, and push the fundus forward to the pubes. Küstner draws the cervix down toward the vulva with a volsellum until the fundus is

drawn out of the cul-de-sac of Douglas and then turns the handle of the instrument up toward the pubes, and pushes the cervix back toward the sacrum, where the fundus had lain. There are three hundred and sixty cases on record, collected in the last three years, in which deleterious results have followed retention of vaginal pessaries. In many cases the instruments have grown into the vagina, or have become incrusted and produced perforation and have been removed with difficulty. The use of Gegli's wire saw is suggested in the removal of such retained pessaries. An aneurism needle threaded with silk is carried about the pessary, the saw tied to the silk by means of which it is drawn about the pessary.

**Foreign Bodies (Amer. Jour. Med. Sciences, August, 1902).**—It is difficult to believe all that one reads in connection with this subject, but there are authentic accounts of such things as hairpins, pieces of glass, tin box, wooden wedges and other substances, having been extracted from supposed vaginal tumors, some removed by forceps and some by dissection, a report of one case being without parallel. A young girl of thirteen, at her first menstruation, conceiving the idea of preventing further hemorrhage, inserted a tin box into the vagina. It remained there for many years and then disappeared, the girl claiming that it had passed into the uterus. She married at twenty-three, and at twenty-nine became pregnant, but told the physician at labor that the child could not be born until he had removed the tin box which was in the uterus. After hearing her story he examined for the box, found it at the os, removed it, and a natural labor followed with apparently no untoward effects to be found either in the vagina or uterus from the long continued residence of the tin box.

Koblanck (*Centralblatt für Gynäkologie*, 1902, No. 20), reports one hundred and four cases of movable introflexion treated with pessaries in which five were cured; that is, the uterus remained in normal position from nine to twenty-four months after removal of pessary. In six a permanent cure was probably obtained. In twenty-two the patients were relieved entirely as they wore the pessary—the preference being for the Thomas pessary.

**Menorrhagia in Young Girls.** (*Révue Gen. de Chir. et de Therapeutique*, 1901, No. 8.)—Sirdey refers to obstinate cases of menorrhagia in young girls in which no local cause can be found. The patient becomes weak and exsanguinated before being brought to the physician, or else wrongly treated with tonics for anæmia which aggravate the flow. A change of environment and hygienic conditions are the first essentials. He deprecates hot douches, but advocates cold douches and massage as being beneficial. Hot rectal injections may be used, the patient kept in bed during the flow and a day or two after it has ceased, all violent exercise forbidden, also excitement of all kinds; no tea or coffee, a simple nourishing diet.

**Atmokausis in Hemophilia** (*Centralblatt für Gynäkologie*, 1902, No. 22.)—Pincus discusses the question whether bleeders ought to marry, and answers it positively in the negative. In order to obviate the necessity of enforcing this rule he suggests that at the first appearance of the menses in a young girl with such a loss of blood as to threaten life, the uterine cavity should be obliterated by atmokausis. If the person survives the monthly bleeding, and marries, a second indication for the operation would arise after labor, or during the puerperium, and at the climacteric the indications are positive.

**Vaporization of the Uterus** (*Münchener med. Wochenschrift*, 1901, No. 22).—Bachmann reports thirty-two cases, including twelve of climacteric and fourteen of hemorrhagic endometritis in young women. He is opposed to the use of steam for the purpose of sterilizing the uterine cavity in septic puerperal conditions, inoperable carcinoma, etc. Climacteric hemorrhage is the principal indication, hemophilia another. The results in younger women are often unsatisfactory. Six out of fourteen cases were temporarily benefited.

Fuchs reports the technique as follows: In the absence of adnexal disease the cervical canal is dilated with tupelo tents, and after palpation of the uterine cavity it is thoroughly curetted and irrigated. Steam at a temperature of 115°-120° C. is introduced for from twenty to forty seconds. Twenty-two cases of climacteric hemorrhage are reported treated during the course of six months. In six the flow ceased; in nine, after ceasing for several weeks, the menstrual flow became

regular, in nine the hemorrhages returned, but were less profuse. It is important to introduce the tube not over half an inch above the os internum, hence the necessity of measuring the length of the cervical canal carefully beforehand.

Intermenstrual crises remain as much a riddle of the Sphinx as ever and nothing new is offered in the way of treatment. The pain which occurs from ten to fifteen days after menstruation is referred to the ovaries or hypogastric regions, accompanied by an aqueous or sanguineous discharge lasting from one to three days. It is evident that there is a sudden congestion of ovary which causes a vasomotor disturbance of the uterus in neurotic subjects.

Castration.—Castex reports a recent series of observations on singers who had submitted to castration with or without extirpation of the uterus. He infers no direct effect upon the voice, occasionally it may take on a slightly masculine quality, but retains its former flexibility. Pfister, at work on the same line reports 190 cases where tubes and ovaries were removed, in which in 96 per cent. of the cases menstruation ceased entirely, 28 per cent. had persistent leucorrhœa, and 14 per cent. had vicarious hemorrhages; 5 per cent. a regular menstrual cycle, headache, discomfort, pain—a condition which persisted for two and a half years, gradually becoming less and less.

Saexingeis reports his observations as to ultimate results of castration for fibro-myoma. In 90 per cent hemorrhage ceased and in 85 per cent. the tumor diminished in size. He concludes that this palliative operation should be reserved for a limited class of cases, in which, on account of her health or anatomical conditions present, the removal of the uterus proved justifiable. (*The Lancet*, April, 1902.)

Organo-therapy in inoperable carcinoma seems to have created happy results that have been occasional rather than constant, so that we feel that, as yet, the doctrine of medication by internal secretions as a reliable re-enforcement of our resources has hardly had time to become well founded.

Cancer of the Uterus.—Most of us are agreed that with regard to the etiology of cancer of the uterus we are in the

darkness of Egyptian night, in spite of all the work done in the last quarter of a century.

Dr. Richelot in the opening sentence of his discussion on Cancer of the Uterus, in Paris, in 1900, said: "Perhaps only the progress of hygiene and regimen will make us some day less nervous, less arthritic, less exposed to trophic troubles, to cellular anarchies, to sclerosis, to neoplasms of all sorts." Surgery will not discover the cure of cancer and it is doubtful if medicine will be more successful, and this seems to be precisely the present position of the questions of etiology and pathology and surgery in cancer of the uterus. We may be on the eve of great discoveries by the agency of national and international commissions, but in the meantime, while we wait for new light, we must rely on surgery almost entirely alone, for the respite, the temporary benefit, or the complete cure we so earnestly hope to confer upon those who come to us for relief. The various methods of procedure, whether by the use of the electric cautery, by the abdominal operation, the vaginal method, the partial supra-vaginal amputation, the para-vaginal operation, the radical abdominal extirpation each has its numerous claimants, whose pessimistic views are taken up by many gynecologists, only to be a disappointment in remote results, and amid these diametrically opposed opinions the question arises, what can be done for palliative treatment of inoperable cases of cancer; and many of them have reached the advanced stage before coming under the care of the gynecologist?

Dr. J. W. Sinclair (Prof. of Gyn. and Obs. in Owens College, Victoria University), advocates the use of chloride of zinc as a palliative surgical treatment. With the patient under an anæsthetic, the thorough removal of all friable tissue is made with the sharp spoon or curette, all shreds which remain after curetting to be removed with suitable scissors. The cavity may now be packed firmly with dry lint, while the operator sees that the chloride-of-zinc solution, or paste, and carbonate of soda in solution or powder, is so placed as to enable him to use it with precision. If a strong solution (one in two or one in three) is to be employed, it should be applied to the cavity by soaking the end of a long shred of lint, the

dry part of which can be packed in to prevent the surplus of fluid from flowing into the vagina. Immediately after, pledges of cotton wool soaked in the carbonate solution or impregnated with the dry powder, may be applied to the mouth of the cavity in the vagina, so as to keep up the excess of the escharotic. After the effervescence is over, these pledges may be removed and the whole vagina packed with lint, slightly wrung out of the strong solution of the carbonate of soda, and the operation is complete.

The uterine and vaginal tampons may be removed in a few hours and the flow of serum encouraged for a few days by douches of hot boracic solution. The ulcerating margins may very usefully be touched with solid chloride of zinc in the form of a stick held in a suitable way.

The advantages of this treatment are that it may be repeated with benefit, the arrest of hemorrhage, and to a large extent, the arrest of the foul-smelling discharge, the restoration of appetite with better assimilation, and an improved mental and physical condition.

**A New Treatment of Cancer.**—Howitz reports favorable results in the treatment of cancer by freezing cancerous vegetations by a jet of chloride of ethyl. This may be preceded by curetttement and cauterization with a hot iron, if indicated. When the freezing jet is directed on a part of the vagina or uterus invaded by cancer, these parts are not blanched, or at least much less than the healthy tissue, which enables the operator to determine the extent of the cancer. Howitz believes that this may serve as a diagnosis between cancer and other granular vegetations resembling it. During curetttement of the uterus, when small cancerous areas have been left, the difference between these areas and the healthy mucous membrane is marked enough, after freezing, to enable the operator to complete the curetttement without touching the healthy mucous membrane. After curetttement the actual cautery may be used if there is hemorrhage, and if this is not done, the uterus should be packed with gauze. When the gauze is removed the area should be washed with hot water and dried.

An ethyl chloride spray is then directed on the diseased area for not over five minutes. This treatment should be

repeated every two or three days at first, later at longer intervals. Every suspected point should be curetted at once, and the patient placed on the most nourishing food.

Liquid Air in Treatment of Cancer.—Dr. G. S. Hopkins of Brooklyn advocates the use of liquid air in the place of chloride of ethyl. It does away with the necessity of cauterization with hot iron, and is absolutely painless; the parts being frozen in a few seconds, can be peeled out with perfect ease. In the application of liquid air, if the parts have been suppurating, the contents of the ulcerated patches will shake out like coarse oatmeal. The liquid air can be applied as frequently as any odor or pain are noticed, both of which he claims are controlled by its use. The most satisfactory method of application is in the form of a spray, the healthy tissues being protected by a layer of asbestos as the spray might inadvertently be carried beyond the diseased area.

Formalin as an Intra-Uterine Application (*Centralblatt für Gynäkologie*, 1902, No. 13). Menge calls attention to the superior excellence of formalin as an escharotic as compared with chloride of zinc. He uses a 50 per cent. solution of the pure drug, and recommends its use in endometritis after abortion and labor at full term, a single application often being sufficient to stop hemorrhage and foul discharges. The writer is strongly opposed to intra-uterine injections of caustic solutions.

Treatment of Inoperable Cancer with Methyl-blue (*Centralblatt für Gynäkologie*, No. 22, 1901.)—C and Ungaro advocate the use of the following solution: Methyl-blue, 90 grains; 90 per cent. alcohol and glycerine aa 3 drams; water, 7 ounces. This is applied to diseased cervix on tampons after previous curetting. A weaker solution is used for vaginal and intra-uterine irrigation. The results are reported quite satisfactory, patients being kept comfortable and free from hemorrhage and discharge for months, or even years. Pain is relieved so that morphine could be dispensed with and the progress of the disease evidently retarded, and no unpleasant effects noted after long use of the remedy.

A Plea for Intra-Uterine Exploration.—Volumes have been written upon the etiology of carcinoma, pathologists have

fought over various theories why certain cells revert to lower types and produce symptoms and changes destructive to the organism. The clinician in ignorance as to the cause of the pathologic conditions he is trying to combat, urges with intense earnestness the necessity for early diagnosis. Baldy, in his recent address before the Pennsylvania Medical Society, says that the duty of the hour is for the specialist to teach the general profession on all occasions, at all times, and in all places, without ceasing, the one sure thing about this miserable disease, viz., that the hope of better results by our present methods rests in an early diagnosis and in that alone. Sinclair, in a recent address before the British Medical Association, emphasized the same point, placing clinical investigation and study ahead of the microscopic, and minute investigation without belittling the value of pathologic work. Upon the general practitioner rests the grave responsibility of diagnosis of uterine carcinoma; to him the patient looks for a comprehension of the significance of her symptoms; of him she expects the thorough investigation requisite to determine the causes of her symptoms. Cullen believes that cancer of the uterus is so prevalent that all practitioners see yearly at least three or four cases, and that without the assistance of the general practitioner the gynecologist will invariably see the case only when the disease has advanced too far to permit of removal. Careful bimanual examination will reveal cervical cancer, but in those cases where adeno-carcinoma of the body is developing nothing but intra-uterine exploration will permit of conclusive diagnosis. Frequently the uterus is found movable, the cervix normal in size and color and contour, yet extensive malignant disease is present in the canal and body. Examination by touch or speculum reveals no inflammation, but intra-uterine investigation solves the problem. The method of making this is by dilatation, accomplished by the graduated bougies, or the parallel bar dilators, or by laminaria tents made aseptic by dry heat at 250° F., then the introduction of a curette, or if possible, the introduction of the finger. The examination of the tissue removed by the curette and the extent of the surface found diseased by the examining finger, will determine the condition present. In all obscure cases, especially those in which post-menopausal

hemorrhages occur, a large per cent. of cases might receive earlier operation and the possibility of a radical cure.

The use of sterile yeast is advocated as a valuable antiseptic because of its bactericidal power, which has been demonstrated by tests in virulent cultures of cholera and typhus bacteria, and also with the pus bacteria, *staphylococcus pyogenes aureus*, *B. coli communis*, *B. aërogenes*. It has been successfully used in the treatment of erosion of the portio; for this condition alone, or as preparatory to cervical and uterine treatment with other remedies. The disadvantage is that the patient must be kept in bed, at least a number of hours. It is also recommended in preparing patients for abdominal and vaginal operations, the yeast being introduced into the vagina the night before and allowed to remain at least twelve hours. It leaves the mucous membrane in a perfectly normal condition for operation, especially in colporrhaphy.—(W. Albert, translated from German, August 16, 1902.)

Criminal Abortion.—The subject of criminal abortion has received much thought during this last year, and while it suggests a train of unpleasant thought it is a most important subject. From the nature and circumstances attending cases of abortion, it is almost impossible to estimate the frequency with which it occurs. Yet as far as we can ascertain, its frequency is so appalling as to demand discussion and condemnation. Many cases occur without the subject knowing it, many are self-produced, many performed by professional abortionists, and these are all kept secret; it is only when a fatal result follows that medical men or the public know of them.

Dr. Duff, of Pittsburg, in discussing the subject says: "We are fast becoming a nation of accidents. Fathers and mothers should be prepared physically and mentally for the production of their offspring and there should not be accidental results." Balloch urges that we as physicians are more intimately conversant with this crime and its results than anyone else, and it should be our duty to insist at all times and seasons upon the actual physical harm which may and does result from its practice. Women should be made to understand that it is vastly more harmful and dangerous to have an **abortion** than to bear a child, and that while the mortality from one is practically none, the other causes many deaths

and untold misery every year. The legislator, the clergyman, and the statesman, all who have at heart the growth of our country in power and wealth, should view with concern any limitation of its population, and should consider whatever tends to reduce the birthrate of a country as a political crime.

The agitation and alarm in France over this question has become so great that laws of all kinds are proposed to remedy this retrogression.—(American Medicine, February 22, 1902.)

Bachelors and maids over a certain age are to be taxed, and a premium paid for every child after the fourth, while the wearing of a corset is to be forbidden by law.

Dr. Engelmann, in a thoughtful article upon the increasing sterility of the American woman, finds that one miscarriage occurs to 2.8 labors at term, and believes that miscarriage is more frequent in this country than in Europe. In speaking of the advance made in medical and sanitary science, he says: "May we not reasonably look for corresponding general and positive results from the progress of obstetric and gynecic science—that science which has for its object the treatment and relief of conditions which cause suffering and prevent the healthy performance of the sexual function, of menstruation, ovulation, and parturition."

The birthrate in our own country is lower than it has ever been before, and much lower than that of many European countries. Among the native-born in every State, the average is lower than in France, and it is only the higher birthrate among the foreign population that re-establishes the ratio when the whole country is considered.

By the essayist's tables the birthrate is highest in Russia—48.5 per 1000—somewhat less in Austria, Prussia and Italy; in France far below, being 22.4 per 1000.

In all there is a decrease since 1870.

The average birthrate of six of our States (Connecticut, Massachusetts, Michigan, New Hampshire, New Jersey, and Rhode Island) in 1890, was 22.1 per 1000, and this rate is figured on the mixed population and includes the native as well as the foreign-born.

The birthrate among the native-born in Massachusetts, is

slightly over 17 births to 1000, in Michigan as low as 12 to the 1000.

In some of the big cities the population is so distinctly foreign that the native-born do not constitute thirty per cent. Dr. Engelmann "thinks it needless to ask the question whether the American population can hold its own or not since we see that its birthrate is so far below that of France, which is trembling in the balance, and were it not for the greater fecundity of the foreign-born who continually come to this country, we certainly stand on the brink of a threatening predicament.

Another point of view is that of fecundity per marriage. This is not decreasing quite as much as the birthrate; Russia again heads the list by 5.5, followed by Austria, Prussia, and Italy; England less, France least, 2.1 children to the marriage.

In this city of Boston the number of surviving children to each American mother is as low as 1.8, whilst among college women it drops to 1.6, the lowest point reached by any class of women in any country. In conclusion, Dr. Engelmann says that the birthrate of the American-born population is much below that of France and the fecundity of the American woman is below that of the women of any other country.

Why this is so cannot be explained by climate, or loss of reproductive power, but is rather a result of various methods of preventive and family limitation.—(St. Paul Medical Journal, April 1902.)

Although criminal abortion is only one factor in a lessened birthrate, it is clearly a demonstrable one, and the criminal abortionist should be thwarted by the strong arm of the law.

Dr. Blondel, in a paper reviewing one hundred cases of abortion, in his private practice of twelve years, concludes by saying that in every case he disinfects the uterus—whether he suspects criminal intervention or not—and even though a sign of sepsis was present or not. In no case, even in those in which he knew instrumental interference had been employed, did he detect any wound, or abrasion of the cervix enough to swear to as evidence of criminal procedure.

Though the warfare against this vice may be unsatisfactory, and teaching the laity may be discouraging, as protectors of health, and defenders of the unborn, it is our duty as physi-

cians to sound the warning, and institute a crusade against criminal abortions, and abortionists.

Those who have thought seriously on the subject predict the "passing of the native-born American," the perpetuity of the race is in danger—"the perpetuity of that race of man who planned the principles of civil and religious liberty upon this continent, who gave us the Constitution, and preserved the integrity of the young republic in its long struggle for liberty."

The Medical Side of Gynecology.—The medical side of gynecology claims our attention; the glamor of gynecological surgery has obscured the commonplace, but equally important study of gynecological medicine. Nearly one-half of the women who seek relief from disorders peculiar to their sex are sufferers from defective eliminate organs, as shown by constipation and the elimination of solids in their urine. There are many disturbances of the system, which resemble pelvic disorders. Pain in the back, the most common ailment of women, may be due to coccygodynia, myalgia or other constitutional disturbances—abdominal pains, apparently located in the ovaries, may arise from habitual constipation or some disturbance in the large intestine. Hegel has said, "there are many things we must be content not to know," and while science has done much and will do much more, nature remains infinitely mysterious. We need to give attention to the patient's general health, and in treating pelvic diseases, treat the whole of the woman, and not the pelvis alone.

With all of our scientific preconceptions, we cannot leave our homeopathy as gynecologist behind us, but rather find in our homeopathic armamentarium, a new value from its connection with other sciences. The general practitioner has the key to the situation and by his knowledge of the general ill health will be able to demonstrate the appropriateness of remedial measures. Gynecology is the avenue down which homeopathy is to move to meet all non-surgical affections, and by close prescribing before and after operative procedures, lead to greater and more enduring results.

As the brilliant sunsets reflect the brightness behind the clouds, so the brilliant achievements of homeopathic drug prescribing reflect the range which homeopathy bears to gynecology and foretells a large future for its science.

## TREATMENT OF LEUCORRHœA IN GIRLS UNDER TWENTY.\*

BY AMELIA BARROUGHS, M. D., BOSTON, MASS.

This means from childhood to womanhood, the most critical part of a woman's life, that period which decides whether she shall be physically and mentally strong and vigorous, and consequently a joy to herself and those around her, and fitted to fill the noble position she was intended to fill, that of companion, wife, and mother.

How few do we (as physicians) see who are physically fitted to meet the demands laid upon them? and can we not, as a rule, lay the blame to lack of proper care in childhood? No disease is more common with the female sex than leucorrhœa. It has been treated for many ages, and has been spoken of "in the earliest writings of the Greek school, and throughout Roman and Arabian literature."

It should always be borne in mind that leucorrhœa is itself a symptom of some local exciting cause, or constitutional dyscrasia. J. Stuart Mill says, "The aim of all intellectual training for the mass of the people should be to cultivate common sense." Is it not the motto we as physicians should use in the treatment of girls under twenty?

It is supposed that all educated physicians are fully conversant with the different forms of this aggravating disease, or symptom—as vulvar, vaginal, cervical and uterine. The majority of cases under twenty I find either vulvar or vaginal, sometimes both, cervical and uterine rarely except in childbearing women.

As leucorrhœa is a symptom, our first duty is to find the cause. In undeveloped children we find undeveloped sebaceous glands, lack of proper cleanliness, often constipation and pin worms the cause; also masturbation which may be cause of leucorrhœa, or the leucorrhœa cause of masturbation. This latter condition we find a great cause of trouble in many cases.

\* Read before the Massachusetts Surgical and Gynecological Society, December, 1902.

In the girl from ten to twenty the symptoms are more trying, and harder to overcome, owing to the natural changes taking place in the process of development, and establishment of the menses. Our girls are in overcrowded schools, work-shops, or stores, impure, and devitalizing atmosphere a natural consequence, in school generally overtaxed mentally. The body should keep pace with the brain, but too often the brain is cultivated at the expense of the body, and we find a demoralized condition of the vital forces. In the undeveloped child, I generally find perfect cleanliness, with proper adjustment of clothing to prevent irritation of the parts, plenty of exercise in the open air, with a good nourishing, non-stimulating diet, all that is necessary to a cure unless there are constitutional causes; then use the indicated remedies.

In our school girl we find more trouble, nervous, excitable, sensitive, owing in many cases to brain tension, impure air and impure associations; generally the working girl is overtaxed physically as well as mentally. Attention should be given specially to the clothing, having it easy-fitting, avoiding in all cases tight lacing, systematic exercise either in open air or gymnasium, plenty of sleep in a well ventilated room, tepid sea salt sponge bath every morning, bathe the genitals in cold water night and morning. I do not believe in advising a vaginal douche, or examination, and local treatment for a single girl under twenty if it can possibly be avoided; of course there are cases that demand it, but in my experience they are the exception. The majority of our writers advise bathing the parts irritated in "hot water." From experience again I would say, I never failed to cure any ordinary case of leucorrhœa with cold water, and my indicated remedies. To proper clothing, exercise, fresh air, pure water, add a good nourishing non-stimulating diet, with homeopathic remedies as indicated, and the majority of cases are cured. In no place has homeopathy served me better than in the treatment of leucorrhœa. There are many, many remedies which need close study. I will only take your time in mentioning a few of my favorites. Acon., ars., alb., bell., borax, calc., carb., calc. phos., canth., carbo. veg., cimicif., ferrum hyd., kali bi., merc.

viv., ova teista, platina, puls., sepia, and sulph. I must not forget to mention the use of electricity, as I have found it of invaluable assistance to girls of from fifteen to twenty, as it is thoroughly vitalizing.

#### DISCUSSION.

DR. CHAS. E. GRAY: The subject of Dr. Burroughs' paper is exceedingly interesting to me, and although I may not be able to add anything of interest to what has been said, I would like to emphasize certain points, viz., surroundings, diet, condition of bowels, etc.

1st. Surroundings.—Patient should be in a position where she can have plenty of fresh air, and should engage in light out-of-door sports; this means that she should be removed from work or occupation that is sedentary. 2d. Diet should be generous. In these cases the patient is frequently anæmic, and the constant loss of albumen will tend to increase the anæmia; for this reason we frequently find nature trying to assist herself by temporarily arresting the menses, and the patient will have an abnormal craving for chalk, and slate pencils, and highly seasoned food. I always insist upon plenty of lean beef, mutton, milk and eggs—in fact upon a non-stimulating diet.

Constipation.—The condition of the bowels must be looked after frequently, patient will insist that she has had a good movement every day, when an enema will reveal a large accumulation of scybala.

Baths.—Frequent baths in salt water (one-half ounce to a gallon) are beneficial, anointing the genitals with white carbolated vaseline, or white vaseline lanoline, and oxide of zinc ointment, afterwards dusting the parts with fine boric acid, by means of a powder insufflator when pruritus occurs, a small quantity of glycosole of tannin, made in a suppository form, with olenin theobromæ, retained by a cotton pad will relieve greatly.

General treatment with electricity is a valuable adjunct.

The indicated remedy is of the greatest importance. I will mention a few upon which I personally place great reliance in young subjects, calc. carb., china, ferrum, nat. mur., phos., puls., carbo veg., graph., sabina, and sepia.

Dr. J. K. Warren: I would like to ask Dr. Burroughs in regard to electricity.

Dr. Burroughs: I have used thermo-electrical baths; when feasible the full bath or sitz baths, and always with satisfactory results.

## THE RELATION OF UTERINE DISEASES TO THE UPPER AIR TRACT.\*

BY T. MORRIS STRONG, A. M., M. D., BOSTON.

The well-known physiological reflexes which have been demonstrated to exist between the sexual organs and the respiratory tract must of necessity have an influence in producing conditions of ill-health, which may be more or less permanent, when circumstances so favor.

They follow as well along the line of functional disorders or physiological conditions, such as menstruation, the climacteric or pregnancy, as in true pathological states. Under the former heads we have the epistaxis, which accompanies menstruation, and which, later, as reported in several cases, may appear in its place, after the establishment of the menopause.

Hemorrhage from the vocal cords during menstruation has also been noted.

One writer has stated that in his experience the odor in ozena, in some individuals, was intensified during the menstrual period, and the secretion more abundant (Mackenzie).

Again there is the erythematous condition of the external nose, characterized by redness and swelling, with a similar condition of the mucous membrane, due to disordered menstruation.

The voice, as affected at puberty, when the mucous membrane of the larynx takes on more or less congestive states, may be similarly influenced during the menses, pregnancy, or in certain uterine affections, where the voice tires easily, and unless carefully attended, may result in serious trouble, especially in singers, or those whose livelihood depends upon the ability to use the voice in public.

Friedrich quotes from several authorities warning against the use of the galvanic cautery on the erectile tissue of the nose in pregnant women, as abortion may, and has followed its use. Again that there were certain points on the anterior ex-

\* Read before the Massachusetts Surgical and Gynecological Society.  
December, 1902.

tremity of the middle and inferior turbinate bodies, and on the tubercle of the septum, designated as genital areas, and that by cocainizing these areas, the pain which accompanies, or follows, the menstrual flow, can be relieved, and labor pains reduced to a minimum, and that the cauterizing of these areas had permanently relieved dysmenorrhea.

Certain sensory disturbances characterized by dryness of the throat, a feeling as of a foreign body, and desire to cough, may also be noted as depending on hyperesthetic or transient states of the sexual organs.

Through connection of the pneumogastric with the pelvic nerves and ganglia, and the influence of the vaso-motor control of the vascular system, we have more or less directly an irritation of the general system, which, with a predisposition to catarrhal or inflammatory congestions of the mucous membranes, aided by climatic environments and hygienic misconduct in its various forms may produce morbid conditions of the upper air-tract, proving at times quite severe. The obstruction of the pelvic circulation from pressure of the displaced uterus, or in chronic endometritis, with its consequent damming up of the collateral circulation, sometimes causes its effects to be seen in the dilated vessels, especially noticeable upon the posterior pharyngeal walls with coincident involvement of the nose, in the form of intumescent rhinitis, hardly going on to true hypertrophy, except in isolated cases where the causative factors are more along the line of obstructive catarrhal conditions of the naso-pharynx, than uterine. Thus we have attacks of pharyngitis, laryngitis, et cetera, which so simulate true acute forms of the same, as to render the etiology difficult, and thus delay the cure; reflex conditions not always appreciated.

In these attacks of pharyngitis we have the sensitive, congestive mucous membranes. Intense aching pain behind the posterior pillars, sore throat up and down the side walls, varying in intensity aggravated by fatigue, rarely lancinating, a slow torturing ache. With this may be an enlargement of the tonsils or even follicular tonsilitis. These conditions are all intensified during the menses. The differential diagnoses are the failure of the ordinary local treatment, absence of

fever, and the recurrence without regard to temprature or exposure. These conditions may be due to stenosis of the canal or uterine catarrh, with perhaps painful menstruation.

So with the hystero-neurosis of the larynx, we have persistent cough, shot, hacking, spasmodic, occurring at puberty or associated with malposition of the uterus, or diseased conditions of the same. Examination of the larynx is practically negative, except possibly some slight deadness of the cords; if the attack is severe, or the cough constant and frequent, hoarseness, or marked loss of voice may also be present.

The hysterical laryngismus or aphonia depending upon the emotions only should not be confounded with those reflex neuroses produced by non-development, or disease of the uterus or ovaries, or both, or by periuterine disease.

We have also marked effects upon the bronchial tract, due to chronic metritis, oophoritis and pregnancy. Asthma occurs at many critical periods of female life, due usually to vaso-motor excitation of cavernous bodies and mucous membranes.

Engelmann (American System of Gynecology), has written very fully on these hystero-neuroses, quoting a number of cases, especially of those manifesting asthmatic and cough symptoms, some of them only relieved by radical operations.

Now along these lines we may find associated troubles according to our habit of observation and study of each case. When found they often prove very severe, and yet may not be considered, in the presence of the known uterine condition, which is often accompanied with marked distress and severe pains, leading to chronic invalidism. The cases when existing are usually under the observation of the family physician or gynecologist, when the pharyngeal affections might receive scant attention as to coincident details; and on the other hand, cases are treated by the laryngologist, when relief would probably come sooner if treatment was directed rather to the pelvic disorders—signboards which cannot repeat too often the warning that diseased conditions are a part of, but not the whole.

Dr. George B. Rice: Dr. Strong's excellent paper is of particular interest because so little has been written in the textbooks and periodicals on the subject.

In the July number of the Brooklyn Medical Journal, an article appeared on the "Relation of the Nose to the Reproductive Organs" by C. H. Cox, M. D. I tried to get a copy of this article, but did not succeed in time to refer to it for this discussion.

Carl Seiler writes of a series of experiments carried out by Dr. Howard A. Kelly and himself, with the view of establishing the exact relation of uterus and laryngeal diseases. He says, "In a number of cases which we examined conjointly for the purpose of establishing the truth of this relation, either the laryngoscopic or vaginal examination was made first, and the diagnosis written down sometimes several days before the other examination was made by either Dr. Kelly or myself, and it was astonishing how clearly I was able to diagnose intra-pelvic disease." \* Dr. Seiler believes that these experiments demonstrated that a certain indescribable appearance of the upper air passage, which is neither a congestion nor an anaemia, yet is recognizable to the experienced eye, is an invariable sign of uterine or ovarian disease. When this condition is most pronounced in the larynx and pharynx, the reflex disturbance is likely to be intra-uterine, while if it is more pronounced in the upper pharynx and naso-pharynx, the cause may be looked for in the ovaries or tubes.

In looking over my case book for clinical cases of this nature which have come under my personal observation, I find two of interest.

Mrs. G. consulted me on February 12, 1900, complaining of a catarrhal discharge from the nose beginning with a severe cold contracted in 1898, but not being particularly troublesome until she became pregnant two months previous to her visit to my office. Since this time the discharge had become profuse, yellow, or yellowish green, in color, accompanied by nasal obstruction with paroxysms of sneezing and loss of the sense of taste and smell. Otherwise her health was good. Examination of the nose disclosed a condition which I thought was a beginning atrophic rhinitis; the intra-nasal tissues were rather pale and doughy in appearance, and the discharge had a slight ozenic odor. The patient was under ob-

\* *Diseases of the Throat.* Seiler. p. 191.

servation several months without receiving very much benefit from the treatments. After her child was born in August, however, she made rapid improvement without any treatment, and to my certain knowledge has not had any return of the trouble up to the present time.

On December 4, 1901, Mrs. H. consulted me for a severe catarrhal cold, beginning in the previous October. I learned that she expected to be confined in the following February. The objective and subjective symptoms were similar to those in the case first mentioned. She remained under treatment for about six weeks, obtaining some benefit and particularly from the administration of pulsatilla 3x. I saw her again after her confinement on March 20, and on April 17. Her nose on both of these visits seemed to be perfectly healthy, and she assured me that she was absolutely free from the former catarrhal trouble.

A Russian author, Przedborski \* has observed the following conditions apparently due to pregnancy, one case of paralysis of the crico-arytenoids, four cases of laryngitis hemorrhagica, and two of ozena trachealis. All of these conditions promptly disappeared soon after confinement.

I can add nothing to what Dr. Strong has so clearly written regarding the reason for the pathological relation between the pelvic organs and the upper air tract. He has demonstrated the fact beyond controversy, and I therefore emphasize his closing words by saying that a broad comprehensive knowledge of all diseases is necessary before attempting to undertake the treatment of those of special organs.

DR. E. P. COLBY: The subject is one of special interest to every neurologist, for it brings up the great importance of the reflex action of one organ upon another, or upon others. The evidence that has been given here to-night would convince us reasonably that there is a reflex arc or a reflex relation. If I used the term reflex action you might think I referred to the relation between the pelvic organs and the respiratory passages. There is undoubtedly such a relation, but we are ignorant as to the precise course followed by these reflex impressions, or the impression from the focus

\* 1901 Year Book of Nose and Throat, p. 145.

to the results felt in the reflex, but even with what little we do know of this subject I think we are willing to acknowledge that it must be almost necessarily through the sympathetic nervous system. I am almost ashamed of myself when I use this term, because it takes me back to my younger days, when to explain anything I did not understand I used it as a learned explanation. I was not alone. Almost invariably you will find that in these manifestations of our vaso-motor action, there is paralysis of the vessels, capillaries, or anæmia for spasms which are produced by irritation, and there is very frequently a serous exudation; all of this can come only through the vaso-motor control, from the vessels in that region being irritated. We do not know what is the track by which these impressions are controlled, both efferent and afferent, from the spine toward the brain. While we cannot tell what the track is which is followed by these impulses, disease does know; thus disease in making this selection gives us information which we are utterly unable to obtain otherwise, and that brings us back to our method of true homeopathy. Because we cannot name the pathway which impulses take, it does not follow we cannot learn something of the way to treat them. I fully believe if we paid a little more attention to not only one leading symptom, but to the other subsidiary things, in other parts, as the air passages, for instance, we should be successful where we now fail.

DR. F. A. GARDNER: One point that I have noticed, the peculiar flush and local congestion in the nose of young girls at this time, is it general? I have seen several cases in which this condition was very marked, that is, flushing and irritation of the nose at the time of the menses.

DR ELIZA B. CAHILL: I do not think I have anything to say, except in agreement with it. I have been immensely impressed. A foremost condition often with misplacement is chronic throat irritation and I have seen it time and time again. Unless the throat case yields to treatment an investigation should be made to learn if there is not some trouble in the pelvis. I have seen a copy of the paper and agree with it absolutely.

DR. AMANDA C. BRAY: This paper is especially interesting to me because of its bearing on a case which has been under my observation for some time. The patient, forty years of age, has a slight retro-displacement for which she comes to me occasionally for treatment. She had attacks of hoarseness at varying times for which she had received treatment by a laryngologist.

After a short acquaintance I noticed that she was always hoarse when she came to me, and she remarked that in twenty-four hours it usually disappeared, as she supposed, from the remedy I had given her. This led me to look up my remedies used to see if they had worked the marvel that she supposed. Later on I did not give her any remedy, and only two or three treatments in as many months, and then not for six months and at one time over a year. It took me some time to satisfy myself that the hoarseness was dependent upon pelvic disturbance, and now, when she feels the hoarseness coming on, she comes to me, and invariably within twenty-four hours it gradually disappears. She is not conscious of any pelvic trouble; that is, backache, bearing down, or any pain or ache, and I feel that many such cases can be found by careful inquiry into the accompanying symptoms.

That there is a reflex condition in naso-pharyngeal and laryngeal affections, due to disturbances of the pelvic organs, cannot be doubted, and if the symptoms are well defined, we can trace the connection quickly, but in these obscure cases without well marked symptoms it is well to look to the pelvic organs as possible factors in the disturbance.

The ganglionic system of nerves, the great centre being the solar plexus, and the cerebro-spinal system should work in harmony, and if the stimulus to either is impaired, reflex functional disturbance follows in some part of the body.

## WOUND CLOSURE, WITH ESPECIAL REFERENCE TO THE DAVISON SUTURE.\*

BY JAMES B. BELL, M. D., BOSTON.

Great progress has certainly been made in the search for the most effective and successful methods for the closure of wounds, in the last two decades, and since the introduction of asepsis and the aseptic absorbable sutures.

But it is nevertheless both safe and wise to inquire whether the limit has been reached in this direction, and whether anything like perfection has yet been attained.

Next to the skillful making of wounds, the successful closing of them is worth our most earnest attention, and most matured through study and observation.

It is true that we sometimes get excellent results, quite often perhaps, with methods of closure that are not in themselves ideal, much depending, no doubt, upon other factors of which we cannot now speak.

It is also equally true that we see many cases of wound irritation, and more or less suppuration, which are traceable to the present method of suturing. If all these cases can be eliminated, we shall certainly have accomplished a great deal for the welfare and comfort of our surgical patients.

We may take abdominal wounds as presenting most of the problems which we have to meet.

For a long time and especially while we still used silk, the through-and-through suture was the only one used, and often gave excellent results. Still more satisfactory, however, was the use of silver wire, or silk-worm gut, especially after the latter was combined with a layer suturing with plain or chromicized catgut, and with capillary drainage of the dead spaces, when the peritoneum was not enclosed in the stay sutures.

The objection to all the through-and-through, or to the stay sutures, is that they always interfere somewhat with the circulation in the lips of the wound, and especially so if tied a little too tightly, as they are very apt to be. Between each

\* Read before the Massachusetts Surgical and Gynecological Society, December 10, 1902.

two sutures also all the oozing of serum or blood, of which there may be more or less, is penned up to serve as a culture fluid for any stray pyogenic germs.

These sutures themselves also sometimes penetrate a vessel large enough to cause a bleeding into the deeper tissues, which may become the nidus of an infection.

Or they may pass through follicles rich in pus-forming bacilli and thereby cause a stitch hole abscess.

If kept in also for ten days or more, as is necessary for the best results, there will be more or less cutting of the skin, and sometimes to considerable depth.

Each suture will thus leave a scar, which will be quite objectionable to some people, and especially so to the surgeon himself, as no one appreciates a neat result more than the operator.

All this may argue only for the non-use of the stay sutures, where they can be avoided, but heretofore few of us have felt like relying on layer suturing only, with catgut, as a safe means of maintaining coaptation. Its uncertain duration, even if chromicized, might leave the wound unsupported before the healing was complete, with the danger of separation or future hernia. We can see plainly, therefore, that if some safe and effective suturing can be devised which will do away with all transverse stitches, the conditions of wound healing will be much improved.

In other words, if layer suturing can be made secure and efficient, we shall have made decided progress in the art of wound closure. That this cannot be done satisfactorily with catgut, however prepared, is evident to all who have ever thought much upon the subject.

It may meet the mechanical conditions fairly well in short wounds, but we cannot forget that a buried animal substance, from whatever source or however sterilized, presents conditions of its own which are not the most favorable for wound healing. The animal tissue sooner or later becomes softened and gelatinized, and then is a most suitable culture medium for any pyogenic germs which may reach it, and thus becomes too readily the focus of an extending suppuration.

If we use a chromicized or otherwise hardened catgut or kangaroo tendon, we will too often see it act as a foreign

body some little time afterward, causing suppuration and a sinus, and requiring a removal in some way before the wound will wholly close.

What we need, therefore, is a suture which shall be permanently sterile, and a method of placing it and removing it when it has served its purpose without interfering in any way with the wound healing.

The only substance which we have that meets both these requirements is silk-worm gut of the best quality. For the method of placing it and removing it, we are indebted to Dr. Charles Davison of Chicago, Professor of Surgery in the Chicago Clinical School and Surgeon to Cook County Hospital.

Having made quite a thorough trial of his methods and also some important modifications in them, giving them a wider and easier application, I thought that I could not serve my colleagues better, when pressed for a paper at this time, than by bringing this subject to their attention.

We had better first hear from Dr. Davison himself, by quoting freely from his article in the *Annals of Surgery* for March, 1902.

"In suture of the abdominal wall after laparotomy, the ideal method of approximation is that of layer to layer apposition, uniting peritoneum to peritoneum, fascia to fascia, and skin to skin by independent planes of suture.

"The ideal suture material is one that can be rendered sterile by boiling in water that will remain sterile while in the tissues, and that will cease to exist in the tissues when healing is complete and its function has been accomplished.

"These indications are not fulfilled by absorbable sutures of which catgut is the type, for the reason that this material is of animal origin, already infected with germs, the sterilization of what is difficult and uncertain, and cannot be accomplished by prolonged boiling in water without disintegration of the suture.

"Absorbable sutures eventually break down and pulpify, liberating and imprisoned germs and making a line of culture material, a nidus for pyogenic germs, either local in the catgut or brought to it by the blood current. Many times late

infection of a wound after primary union has occurred is due to this action of catgut.

" Permanent buried sutures, the type of which is the twisted silver wire, are not the ideal sutures.

" After healing has occurred and their function has ceased, they become foreign bodies, and either are encysted in the tissues or are surrounded by granulation tissues, and are gradually extruded from the tissues, months or years after the operation.

" I wish to present the method of closure of abdominal sections that I am using in routine work.

" The wounds are closed by suturing each layer with a continuous silk-worm-gut suture, the ends of which are left out at the angles of the wound to be removed by traction when healing is complete.

" The suture in the strongest layer is tied in position at each end in the layer with knots that can be unlocked by traction on the exposed ends when the stitch is to be removed.

" The edges of the peritoneum are caught with forceps and held up away from the intestines by an assistant, and the peritoneum is closed by a continuous herring-bone suture of silkworm gut.

" When the opening in the peritoneum is closed, the suture is shirred to take up all of the slack and to lessen the length of the wound, and the ends are left hanging out of the angles of the wound."

" The silkworm gut is kinked in such a manner that it binds itself in the peritoneum and does not slip or pull apart; but by the end of a week, when the suture is removed, the elasticity of the silkworm gut has made the suture perfectly straight and has brought the perforations in the peritoneum into a straight line, making a track around the stitch by pressure necrosis, so that it is very easy to remove by traction.

" In removing the suture, the patient relaxes the abdominal wall by elevation of the thighs and shoulders; one end of the stitch is cut short, the other end is grasped in an artery forceps protected by a bit of gauze and wound up close to the skin, and traction is made on the forceps like the handle to a corkscrew.

" For identification at removal, this suture may be colored

black with silver nitrate, blue with alcoholic solution of methylene blue, or the ends knotted to correspond.

"The closure of the linea alba in a median laparotomy is as follows: This is the strong layer of the abdominal wall, and if the tissues are fastened securely there can be no spreading of the wound. For this suture coarse selected Spanish silk-worm gut, thirteen inches long, without flaw or defect, is used.

"A small reverse bow-knot is tied four or five inches from the end of the strand. The edges of the fascia are caught with forceps and held up by an assistant. The suture is introduced in a firm place in the fascia back from the edge of the wound, and drawn tightly up to the knot, and the wound is closed by the continuous herring-bone suture. At the last stitch the suture is shirred up tightly, grasped by a smooth pointed dissecting forceps at its exit from the fascia, and another reverse bow-knot tied below the point of the forceps. With practice this can be done without a particle of slack being left in the suture. It can be tied in this manner as closely as in the ordinary method of tying a continuous suture. This layer being securely fastened, takes all the tension from the other layers. The ends are allowed to hang out at the angles of the wound. This suture is removed in two or more weeks. Simultaneous traction on the free ends unties the knots, when the suture is removed in the same manner as the peritoneal suture.

"The skin is closed by the Halstead subcuticular stitch of silkworm gut, colored red for identification by alcoholic solution of carbol-fuchsin.

"These sutures act as capillary drains from each layer. If there are bleeding points which pressure or torsion do not control, they may be constricted by loops of the nearest suture without making a knot.

"This method of suture can be used in appendectomy or any laparotomy in which there is no provision for drainage and in which the incision is in a straight line.

"The same method of suture can be applied to any of the standard operations for the radical cure of inguinal hernia.

"The sac is closed by a continuous mattress suture of silk-worm gut, the ends shirred up, making a sort of double purse-string suture. The lower end is marked by a knot for identi-

fication, and the ends are tied together and brought out of the upper angle of the wound. This suture is removed at the end of a week by pulling up the lower strand and cutting it short, and then drawing out the upper fragment."

For uniting the conjoined tendon with Poupart's ligament, Dr. Davison uses either a basting, mattress or herring-bone suture. Either one brings the parts into close apposition and furnishes good results.

Dr. Davison does not mention the use of the suture in femoral hernia, but Dr. W. F. Wesselhoeft has adapted it to this purpose and used it in one case with a perfect result.

Now I may say that while favorably impressed with Dr. Davison's article, I was deterred from putting his methods into use for some time, because of the supposed necessity of using variously colored silkworm gut, which could not be obtained or easily prepared.

It is true that Dr. Davison mentions a knot, in one place as a means of identification, but I had the impression, and have it still, that the use of color is essential to his method as practiced by him.

But when I gave the matter a little more thought, I saw that it was easy to distinguish the sutures by other means than color.

The peritoneal suture comes out at the angles of the wound and needs no distinguishing mark. The fascial suture, if knotted, with the bow-knot of Davison at the entrance and exit, is much shorter than the others, and this marks it from the others. The skin suture comes out a half inch or so from the angle of the wound, which is sufficient to distinguish it. It has not, however, been found necessary to use the bow-knot at the entrance and exit of the fascial suture, and the omission of this saves a few moments of time. All that is required to hold the edges of the fascia firmly together, is to start the suture a quarter or third of an inch away from the beginning of the fascial incision with a half stitch, and end it the same way.

A single hard knot in each protruding end will then mark this suture sufficiently.

If the skin suture does not close the ends of the skin incision securely enough, it may be made more tense by a bow-

knot at the entrance and exit, or by a perforated shot at those points, and this becomes an additional distinguishing mark.

It is quite remarkable how firm and immovable the sutures become as soon as fully placed, and how reliably they therefore maintain the apposition. They do not feel as though they would ever come out, but after ten days or two weeks, they are easily removed by rather firm traction.

The capillary drainage which takes place at each end of the wound, removing all serum from the deeper spaces, is a decided advantage of this method.

I have made a further application of these sutures to the repair of the perineum.

They can be used with the Emmet method equally well, I think, but for many years I have used only the Tait or flap splitting operation, believing that this best restores the torn muscular tissues, and without loss of substances in case of possible failure.

The great difficulty with this method has been, however, and a real objection, that the central transverse suture, whether of large catgut, or as usual of silkworm gut, has cut so deeply at the end of ten days as in many instances to interfere with at least the cosmetic effect, and also to delay the final healing.

With the Davison suture all this is remedied. The sutures are placed parallel with the axis of the vagina and the axis of the wound, when the flaps reach their final position. They start at the inner angle and come out at the outer angle together, and the over and over, or the herring-bone stitch may be used, each suture closing about one-half or three-quarters of an inch of the depth of the wound in its plane.

Or the horizontal in-and-out stitch, like those of the buried skin suture may be used. This will require about six sutures; the other methods, over and over or herring-bone, three or four. In either case, the outer suture in the mucous membrane is placed horizontally like the skin suture in other wounds. The sutures are bunched together, cut about an inch and a half long, and secured with a perforated shot at the end of the bunch. They come out with some traction at the end of ten or fourteen days, leaving a completely healed perineum, and a most satisfactory one in every respect.

I believe that I shall be able to adapt it also to the closure of the cervix in trachelorrhaphy, but have not yet fully thought out the matter, or made any trial of it.

A further application of the method is to longer wounds than those, about two or three inches, described by Dr. Davison. All that is needed to apply this suture to wounds of any length, is to repeat the process about every three inches, or to treat every such length as a separate wound. The beginnings and endings of each set of sutures may overlap a little for extra security.

I am not yet prepared to make any detailed reports of results, but will say in a general way, that my experience with this suture thus far as tested in abdominal section, appendectomy, repairs of hernias and perineums, has been most happy. I believe that every case has healed not only without suppuration, but without any sign of wound irritation, except one operation for appendicitis in a young woman, which suppurated quite badly, and for which I could not learn the reason, and one laparotomy for what proved to be an inoperable cancer of the stomach and pancreas, in which there was a partial suppuration, from some other cause doubtless than the suture.

We may now quote Dr. Davison's closing remarks.

"In general, the advantages of this method of suture are:

- "(1) Certainty that all suture or ligature material placed in the wound has been made sterile by boiling in water.
- "(2) Accurate layer approximation of tissue.
- "(3) Removal of the buried sutures when healing is complete.
- "(4) Capillary drainage from each layer.
- "(5) Safety of intestines from injury during the application of the sutures.
- "(6) Rapidity of application.
- "(7) Minimum line of irritation on the peritoneal surface and consequent adhesions to the viscera.
- "(8) Slight scar in the skin, there being no perforation of the skin by sutures.
- "(9) All of the advantages of a permanent buried suture without the danger of future irritation and extrusion of the knot.
- "(10) The advantages of an absorbable suture without the danger of sepsis from the suture, and without producing a nidus for septic germs from the blood current during absorption."

#### *Discussion.*

DR. HORACE PACKARD: I presume there is no subject in the whole realm of surgery over which there is less unanimity of practice and opinion than that of wound closure. Almost every surgeon has his own favorite method which he

has adopted from his own experience and has modified from time to time.

Unfortunately and unjustly the method of wound closure and the material which is used for suturing, are often judged according to whether the wound undergoes repair with or without suppuration. If it suppurate we are apt to say it was the catgut which infected it. Let me call attention to the injustice of heaping all the abuse upon the material since there are other things which are apt to cause delay of wound repair. One of these is the surgeon's hands, which cannot be made absolutely and invariably aseptic by any process now known. It has also been shown impossible to secure entire freedom from atmospheric infection. The atmosphere where human beings congregate very quickly becomes the bearer of infective material. There is still another source of infection, though possibly a rare one. The skin involved in the field of operation can never be made sterile in its deeper parts, i. e. the sebaceous glands and hair follicles. I think you can but agree with me that wound closure may be delayed by other things than faulty suturing.

The question of absorbable or non-absorbable ligature material is a burning one, but I think there is now a fair unanimity of opinion, that it is not a good thing to bury non-absorbable sutures in the tissues, because of the danger of suppuration therefrom. So the tendency has been to use the absorbable sutures—catgut and kangaroo catgut. The danger from catgut is that in its raw state it is reeking with bacteria, and to render it sterile without weakening it has been the effort of surgeons for a long time. At the present time, so far as I know, the use of absorbable material for suturing is almost universal in America. Now, from some observations which I have made and from things which have come to me without seeking, I believe there is an error in the method of application of non-absorbable sutures. The way they are applied is more important than what kind is used. We know very well that foreign bodies are often retained in the tissues without causing any trouble in the way of suppuration—bullets sometimes remain years without trouble. In my opinion silver wire and silkworm gut may be applied and allowed to remain without causing any trouble, provided it is adjusted without obtrusive points to irritate the tissues. A continuous silver wire suture feels smooth as the fingers pass over it. An interrupted wire suture feels rough, as if you were passing your finger over saw teeth. (Pieces of leather fastened together to illustrate the different methods of suturing by non-absorbable material were exhibited.)

It may be interesting to tell you how I have come to ob-

serve this great difference. My memory goes back to the time when we did not use the continuous suture for any purpose, but always the interrupted. As time went on I had cases in which I felt the necessity of applying a strong, permanent fastening, particularly in an abdominal wound, for the repair of ventral hernia. I finally came to use continuous silver wire and as large size as I thought necessary to give the desired strength. It is some years since I commenced to use silver wire in this way, but never yet has there been the slightest trouble from it. I think if applied in this way it will not give trouble. Whatever the method of suturing, however careful he may be, the surgeon is pretty sure, once in a while, to meet suppuration. We have not yet all the conditions under our control and occasionally there will be a slip-up. Four or five years ago I adopted what I thought would be my permanent method of abdominal suture, but later I found reason for modifying it.

This autumn upon my return from my vacation, in sixty cases the wound healed without interruption—as beautiful healing as one would wish. One day suppuration appeared where it should not, three others followed. In the hospital we are in constant warfare against suppuration. I started an investigation. Test of catgut was negative, as well as everything else immediately relating to the operation; then I tested the air of the operating room, and got many and diverse cultures. In about two hundred cases since then there has been no suppuration. All that I did to bring this change about was disinfection of the air of the operating room once a week with formalin, irrigation of each wound with one-half per cent. formalin solution and a six-tenths of one per cent. saline. I must believe that these modifications in technique have made the difference.

Dr. Bell has spoken of the "Davison" suture. I do not know how he—Davison—can justly claim originality. The only thing new is the reversed bow-knot which he applies at the end as a fastening. Davison claims too much, particularly in the matter of removal. I know that in a long wound it is impossible to pull it out even at the expiration of three weeks. This, however, does not lessen the value of the continuous silk or silkworm gut or silver wire suture, for if properly applied I am sure they may remain buried, often with profit to the patient in the enhanced strength of the cicatrices. I think in justice to Dr. Davison, I must say he does not claim the subcuticular stitch, but gives credit of that to Halsted. But what he does claim is the buried and removable silkworm gut, and the credit for this certainly belongs to him.

## INFANTILE DYSPEPSIA.\*

ILLUSTRATED CLINICALLY.

BY J. ROBERSON DAY, M. D.,

Physician for Diseases of Children to the London Homeopathic Hospital.

Every child is a law unto himself, is a truism, and this is especially the case with regard to the digestive organs; or the same thing might be expressed differently, but with equal truth, by saying, "One child's food is another child's poison."

Some children seem to inherit a feeble digestive system, and from the first start in life are a trouble to feed. The infant "puking in the nurse's arms" is still with us to-day. Others are in a chronic state of diarrhea, others just as constipated. Even members of the same family may exhibit these differences, and they have always to be reckoned with when selecting a dietary.

Gastro-intestinal catarrh is the commonest of diseases in infants and may cause disastrous consequences, for the springs of life are involved. It is the artificially-fed baby who most commonly falls a victim. Substitute-feeding is rarely satisfactory, and most babies are upset over the proteid elements of the milk. Cow's milk, as is well known, not only contains a greater proportion of casein than human milk, but it behaves differently in digestion, and is of different constitution. The casein consists of the two bodies, caseinogen and lactalbumen. The latter is in great excess in the human milk, and the former in cow's milk. The lactalbumen is easy to digest, the caseinogen very difficult, forming the large masses of curd with which we are all familiar in the vomit and the stools.

The young child is a very unstable mass of protoplasm; and it takes years for this irritability to settle down. The neurotic child is easily thrown into convulsions, and the hard masses of casein are a sufficient irritant to the mucous membrane of the alimentary canal to bring on convulsions (Cases ii and x). In others, constipation or an unsuitable meal will

\* Homeopathic Review.

induce urticaria, or an erythematous rash, with rise in temperature, hard to distinguish from scarlatina. I saw recently a little boy, aged three years and ten months, with a temperature  $103^{\circ}$  F., and an erythematous rash over the chest and back, which spread to the face. He had for some time been troubled with urticaria, and a few old spots remained, which greatly helped the diagnosis. Many, perhaps most cases, date their troubles to weaning. The bottle-fed baby is always in danger, in hot weather especially (Case iv) and if the dirty long-tube bottle is used, matters are far worse (Case viii). Case ix exemplifies the way in which rickets is induced. Any child may be made rickety, irrespective of the parents' health. A chronic dyspepsia is induced, fermentation set up, acids and poisonous compounds manufactured and absorbed, and the all too familiar lesions of rickets follow. If there is a tubercular ancestry this induced dyspepsia may set up irritation of the mesenteric lymphatic glands, and then we get the familiar tabes mesenterica, wasting and enlargement of the lymph glands, a very chronic disease, but generally curable by homeopathy. In other children a chronic catarrhal state of the mucous membrane is induced, the tongue being frequently coated and glazed with an abundant mucous secretion ("Mucous disease"). These children suffer generally from ascarides—that peculiar plague of child life—and are liable to frequent attacks of fever from unexplained causes. I have a little patient who has to be most strictly dieted. If he touches eggs in any form he is made violently ill, and an asthmatic attack at once results.

The personal equation is nowhere more conspicuous than in the treatment of children.

The danger of a diet which contains no fresh food is well illustrated by Case v. The following cases illustrate many of these points, and it behooves us always to bear in mind how sensitive and responsive the child is to external influences. Icterus neonatorum I believe to be due to the sudden chill to which the child's skin is exposed at birth. The worst case I saw was in a baby who was born asphyxiated, and to restore respiration the child had been repeatedly plunged alternately into hot and cold water. The severe chill set up acute con-

gestion of the internal viscera, and catarrhal jaundice followed. The benefits of homeopathy are well seen in Case iv, and a patient I saw at my out-patient clinic a few days ago corroborates this. A boy was brought by his mother for persistent vomiting for three months; he could keep nothing down, and was rapidly wasting. He had been under two allopaths in London, who failing to relieve, advised country air. He went to the country, was no better, and saw a doctor there, but still the vomiting continued. As a last resource he was brought to the London Homeopathic Hospital. Ipec. 3x was prescribed. Next week the mother returned with him, and told me after the second day the vomiting had entirely ceased, and he was now eating well, gaining flesh, and evidently making up for lost time.

Case 1. Baby R., age three months; I saw this patient in consultation with Dr. Macnish, February 11, 1902. Child had been bottle-fed, and a great many varieties of food had been tried; the last to be given was Allenburys' food No. 2, but there was no gain in weight, and the child was very flabby. There was much flatulent colic, which had been relieved by colocynth. 30. The motions were too dark and not properly digested. The tongue was furred. The child did not seem satisfied with the diet. Beyond being very wasted there was nothing very much amiss. On the right side of the head was and severe left-sided convulsions. Indeed, for 36 hours was cham. 3x, j 3 hours, and whey  $\frac{3}{4}$ iv every 3 hours for 48 hours; then gradually add top-milk by teaspoonfuls to each bottle till the mixture was half and half.

March 20.—Dr. Macnish reported going on very well; gained  $\frac{3}{4}$ lb last week.

Case 11. Baby W., age two months; called in consultation by Dr. Austin Reynolds to see this patient at Enfield, February 16, 1902, who since February 14 had been in frequent and severe felt-sided convulsions. Indeed, for 36 hours was in a series of convulsions. Bell 3x was being given when I arrived. I examined the child and found nothing which suggested any cerebral lesion, the anterior fontanelle was not bulging, on the contrary rather depressed, no flushing of the face. Had suffered from windy colicky pains, and a mustard

poultice had been applied to the abdomen. Was being fed on Aylesbury Dairy "Humanized Milk." While I was there a left-sided fit occurred, but less severe than former ones. I advised whey to be substituted for the milk, and if necessary to feed by nutrient injections, as I found there was much flatulent rumbling in the abdomen during the fit, which ceased as soon as the flatus was discharged per rectum. Continued bell.

February 21.—Dr. Reynolds reported there had been a slight fit soon after we left, but none since.

March 24.—Dr. Reynolds brought the patient to see me. There had been no fit for three weeks. The child was very fretful after all food, with much flatulence, and always hungry. Is now taking asses' milk  $\frac{3}{4}$  ijij, aq. calcis  $\frac{3}{4}$  ss at each feed, and gained  $\frac{3}{4}$  vj in 7 days; has very little sleep, as food is required every  $\frac{3}{4}$  hour. There is no vomiting, and the bowels act twice in twenty-four hours; partly formed and no undigested food. Advised raw meat juice, and to gradually replace the costly asses' milk by peptonized milk. Saline baths, inunctions of ol. olivæ, and calc. iod. 3 and cham. 3x occasionally.

Case III. Baby McD., aged thirteen months, was taken suddenly ill on May 9, 1902, with pains in the abdomen and frequent vomiting. Was asked to come and see the child in consultation with Dr. Vincent Green, as its condition appeared grave and intussusception was suspected. The child had always been constipated, and enemata had brought away hard faecal masses, pale ochre in color. The child was sleeping when I arrived; pulse 132; respirations 24. Tongue furred. We decided to make a thorough examination under an anaesthetic, and Dr. Green gave chloroform whilst I examined the abdomen, per rectum and bi-manually. A No. 10 gum elastic catheter passed easily into the rectum, and warm water was injected, until the whole length of the catheter was inserted, and could be felt in the transverse colon. Small faecal masses passed with the returning injection, and no obstruction could be made out; nor was there any blood or mucus. Ars. alb. 3x every 2 hours was prescribed, and nutrient enemata every 6 hours. Small quantities of diluted Valentine's meat juice being given by the mouth.

The diet having been carefully regulated, convalescence was uninterrupted.

Case IV. On September 6, 1902, I was asked by Dr. Blackman, of Brixton, to see A. R. J. B., age four months, who had been thoroughly upset by taking raw milk in thundery weather, causing vomiting and diarrhoea. He had recovered from the vomiting and diarrhoea, but was very wasted; tongue clean, passed one offensive motion in twenty-four hours, like putty, and ochre color. I should say his father, who is a doctor, was abroad on his holiday, and had given instructions for me to be consulted in case of need. The child was taking a carminative mixture in the day time, and a sleeping draught composed of morphia and bromide of potassium at night. I prescribed ars. iod. 3x, gr. j 3 hours, cham. 3x pil. j nocte, and to feed with a mixture of equal parts of peptonized milk and water, sweetened with sugar of milk, of this  $\frac{3}{4}$ iv every 2 hours.

September 9.—Child was brought to me. Motions are now almost natural, color better, and less offensive. The milk was increased and the water decreased.

September 11.—Constipation was corrected by giving bovinine, and calc. c. 6 was substituted for the ars. iod. 3x.

The last time I heard, progress was most satisfactory, food agreeing better, bowels acting regularly, and child sleeping well.

Case V.—Muriel D., age 7 1-2 months, kindly sent to me by Mr. Jas. Johnstone, F.R.C.S. (Eng.), on January 11, 1902. This child had been bottle-fed from birth. Had never taken any milk because it made her constipated at once. She had been entirely brought up on Allen and Hanbury's foods, mixed with water—never had anything else. The child was carried into my consulting-room on a pillow and screamed with the least movement. The legs were semi-flexed, and any attempt to touch or move them gave great pain. The legs were considerably swollen, and the skin glossy, especially over the left. There was sweating about the head, but the color of the child was good. There were four upper and two lower incisors, and round the upper ones the gums were spongy, and there was the characteristic prune-juice color.

I prescribed calc. phos. 3, gr. ij ter die; and diet: whey 3vj every 2 hours, and the juice of  $\frac{1}{4}$ -lb. beef daily; also the juice of grapes.

The child made a complete and rapid recovery.

Case VI.—Baby E. D., age 6 months, was sent to me by Dr. Vincent Green, September 22, 1898. The child was covered with lichen urticatus, a papular rash, worse about the nape of the neck, and wrists, hands, and feet. The tongue was clean, and there was much salivation. There had always been great difficulty with the feeding, as the child had to be brought up by the bottle. No food had been found to suit since birth; the child was constantly sick. The rash had been noticed for six or seven weeks. I prescribed rhus. tox. 3x, and to feed at first with whey. On October 4 I heard the rash was better though not gone.

Case VII.—Baby J. A. K. W., age 16 months; was kindly referred to me by Dr. Vincent Green. She was the first born, and weighed  $7\frac{1}{2}$  lbs. at birth, doing well until weaning, when great difficulties occurred with foods. She had influenza soon after weaning, and this complicated matters. When I saw her September 12, 1900, she was losing weight (6 oz in 4 days), thin, flabby, pale, with large abdomen, flatulence and constipation, although sickness and diarrhoea were more usual. Wine whey proved at first of great service, and any change in the diet had to be made with the greatest care, or sickness resulted. She was very susceptible to chills, and any change in the weather affected her. A severe gastro-enteritis followed a sudden exposure to cold, and on one occasion nutrient enemata had to be given to allow the stomach time to recover. The chief medicines employed were iodide of arsenic 3, tuberculinum 30, calc. phosph. 3. Great patience and a long continued anxious supervision at length restored the child completely. Last October I received a photograph of the patient, as comely a little girl as one could desire, limbs well covered with firm flesh.

Case VIII.—Baby B., age 4 weeks, a patient of Dr. Beale, whom I was asked to see; was born of healthy parents, a first child, but bottle-fed. I found a long-tube bottle had been used, and evidently insufficient care exercised in the

preparation of milk. Violent diarrhoea and vomiting resulted, and quickly reduced the child to a very alarming condition. I at once stopped all milk, and ordered wine whey, and merc. sol. 3. Next day vomiting and diarrhoea had entirely ceased, and though the child was livid, with sunken eyes and depressed fontanelle, and very weak pulse, convalescence was rapid and complete.

Case IX.—Baby B., age 10 months, was kindly sent to me by Dr. Austin Reynolds. The history of the case was as follows: He was nursed by his mother till 2 months old, when he was weaned, and then his troubles began. At first barley water and milk was tried, then cream added, next Allen and Hanbury's food, then humanized, peptonized, and sterilized milks in succession without success. I first saw the child on March 1, 1902, a poor, pale, ill-nourished, flabby creature, with the large square rickety head, and large distended abdomen. Perspiration soaked the pillow during sleep, which was broken and irregular. I prescribed calc. c. 6, and a diet consisting of barley water and milk; later on, Mellin's food and bovinine. He at once began to improve and increase in weight, and his diet was carefully regulated to suit his increasing age and powers of digestion. His progress was steadily maintained, and he now looks the picture of health. He weighed 15 lbs. when I saw him first (March 1), and at the present time (November 13) he weighs 31 $\frac{1}{4}$  lbs.

Case X.—On October 4, 1902, I saw in consultation with Dr. Burford, baby G., whose history was briefly as follows. The child was born September 8, and weighed 8 lbs. The mother was unfortunately unable to nurse, so he was first fed with barley water, milk and cream; then Allen and Hanbury's food alone. October 3, several slight convulsions occurred, and the following day I saw him. I found him passing too frequent curdled motions, undigested, and watery. I suggested equal parts of whey and peptonized milk, and mercurius sol. 3 to be continued. The child appeared better on October 7, and weighed 9 lbs. On October 10, convulsions again occurred, and green, undigested motions were passed, with a good deal of colicky pains causing transient pallor. Whey only and 5j cream to each bottle was ordered, and

æthusa cy. 3, 2 hours. This not agreeing I decided to wash out the bowel, feed with nutrients, and rest the stomach. Then white wine whey was used, which suited well, and he gained weight. The motions were still curdled at times and too frequent. China. 1, pod. 6, cham. 30, ignat. 3, and bell. 3 were all of service. On October 28, the nurse went out and he was greatly upset. Acute indigestion followed by curdled stools was the result, and a return of convulsions, one of which occurred during my visit. I now ordered a diet free from caseinogen, consisting of whey (made with rennet), and fresh raw meat juice. After this the motions were perfectly digested, although still too frequent. He had no more fits from this time, sleeping well (November 1, 12 hours), and when I last saw him his weight was 11 lbs.

Case XI.—On October 25, 1902, Dr. Wynn Thomas, of Bromley, requested me to see baby S., age 4 months, who was a bottle-fed baby, and since a visit last August to Sandown, I. of W., had been suffering from vomiting and diarrhoea. He was having 8 to 10 motions a day, and frequent vomiting. China., merc. sol., ipec., rheum 3, apomorphia, cham. 3x, ars. 30, merc. cor. and bismuth subnitrate had all been given as indicated by the symptoms from time to time. Wine whey (3ij every two hours), and merc. sol. 3, gr. j, 2 hours, were now given. This gave only temporary relief, and vomiting returning the bowel was washed out, and nutrients injected. The child now looked very ill, with sunken eyes, depressed fontanelle, cold and blue pinched expression, rolling the head about, constantly whining, and throwing the arms about. Dr. Thomas had given 3 drops of tinct. opii. the previous night, and when I saw him again we both agreed ars. a. 30 was the right medicine. The nutrients were continued, and gradually feeding by the mouth attempted. Suffice it to say that owing to the unremitting and skillful treatment of Dr. Thomas the child is still making progress towards robust health.

## THE CLINICAL FEATURES OF EARLY ECTOPIC PREGNANCY.\*

BY EDWIN A. NEATBY, M. D.

(Continued from page 65.)

Having considered the list of symptoms and signs of ectopic pregnancy as found at the bedside, we must now sort these symptoms into their natural groupings in co-relation with anatomical changes, as observed from the inside so to speak, i. e., on the operating or post-mortem tables. The fallopian tube is the first home of practically all ectopically fertilized ova. The most frequent seat of their arrest is the ampullary portion of the tube, the isthmus is the next, and the interstitial the least frequent.

The developing ovum forms a swelling in the tubes at first globular and then ovoid. It may be felt on bimanual examination in many cases at any early date, and of course may be seen if the abdomen is opened. The mucous membrane swells and thickens, but the wall of the tube stretches and thins almost from the first, the whole adjoining vascular area, including the ovaries and uterine vessels, increasing in size, and the branches appear even to multiply. The uterus commences to enlarge and a decidua to form. A developing ovum in this situation may go on for three or four weeks with no local symptoms whatever, and possibly, too, with no general ones, such as those of normal pregnancy. Unless the patient be examined, as part of a routine, for symptoms apart from pregnancy, the tubal pregnancy will certainly be overlooked at this stage, or, if discovered, be misinterpreted. This forms Group 1, a stage which must exist in the beginning of every tubal gestation, but this is practically non-existent clinically. Group No. 2 is formed of cases with an unruptured tubal sac, with slight local one-sided dull pain, the symptoms of normal pregnancy, irregular hemorrhage, with or without decidual shreds or casts; these, plus a tubal swelling discovered bimanually, form the earliest diagnosable cases. A few years ago it was deemed impossible to diagnose them; now, although such cases are rarely diagnosed, it is possible to be

done. Such cases, if not operated on at once, should be under supervision moment by moment, and should be ready for operation at an hour's notice. After Group 2 all the cases are complicated with some form of accident, with rupture of the tube, or with tubal abortion, or the formation of a tubal mole. Rupture, the most serious accident possible, may occur from the third to the twelfth week, or later.

Ruptures of very early date—say during the first month of pregnancy—form a class by themselves, and differ from later ruptures in several points:—(a) In the absence of symptoms of pregnancy; (b) in the paucity of physical signs; (c) in the non-localizing character of the pains; (d) in the smaller degree of anaemia.

Although it is commonly stated that the sac usually ruptures not later than about the twelfth week, a case has recently been related by Professor Sinclair, of an unruptured tubal pregnancy going on for six or seven months, the fetus then dying, the breasts filling with a copious secretion of milk, and the liquor amnii being completely absorbed. It was removed fourteen months after the onset of pregnancy and about eight after the death of the fetus, which was found very much shriveled. He states that the tube was evidently unruptured, and if this is a correct interpretation of the specimen, it greatly extends the period during which pregnancy is believed to be possible in an unruptured tube. He also states that the muscular layer of the tube is much hypertrophied.

Rupture may be induced by some straining effort such as defecation, sexual intercourse, coughing, dressing the hair (as in Dr. Johnstone's case), or it may occur without any obvious cause.

One of two sets of anatomical changes may lead up to the rupture. (*A*) The gradual growth of the embryo and enlargement of the sac may cause rupture through over-distension of the progressively thinning walls. The living embryo or fetus may escape into the abdominal cavity, and be lost among the clots filling that space, or may remain in the tube, or partly in and partly out. In the early cases, say up to two months, it is commoner for the embryo to remain in the tube, but later the fetus rarely continues in its tubal home. Again,

the fetus may escape into the broad ligament, the tube having given way at its inferior zone, where uncovered by peritoneum. In either case its fate depends upon its age and upon the amount of accompanying hemorrhage. If a placenta has formed, it usually remains attached to the wall of the sac, and the life of the fetus may be maintained via the placenta, if the mother is not killed by the hemorrhage.

Some years ago an interesting case was treated in the gynecological department of this hospital by Dr. Burford and by myself.

In March, 1895, a married woman, aged twenty-nine, consulted me in the out-patient's department. She was suffering from lumbar pain and continuous vaginal hemorrhage for nine weeks.

The pain, which was very severe, began suddenly in the middle of the night, and was accompanied by vomiting and shivering. Her only confinement occurred seven years previously. The uterus was found to be slightly enlarged, and behind and to the right was a soft, round, tender swelling; moving the cervix caused much pain.

After improvement, she discontinued attendance, and ten months later came to Dr. Burford's clinique, and it is by his courtesy I am permitted to refer to this stage of the case. Three months before admission menstruation ceased. Three weeks before admission she was suddenly seized during the night with acute spasmodic pain, for which morphine was injected. Subsequently pain continued until admission on January 9, less severe in character, but varied by violent paroxysms, micturition and defecation were painful, pulse 112 and 124. In the afternoon of the next day the pulse was 160, and patient's condition was worse. In Dr. Burford's absence I was asked to see the patient. The abdomen was tumid and very tender, and an ill-defined swelling existed on the left iliac region. Pelvic examination revealed a diffuse resistant swelling in the pouch of Douglas, and a well-marked tumor to the left of the uterus, displacing it to the right and rising out of the pelvis. The patient's condition being critical, after consultation I opened the abdomen at 1.10 A. M., and removed the sac which had ruptured intra-peritoneally, the abdomen being full of fluid and clotted blood. Extensive matting of intestines had occurred. The case was under allopathic advice prior to admission and should have been operated on two or three weeks earlier. Very little blood was lost at the

operation, but the patient died from the shock of the hemorrhage thirty-six hours later.

A three-months' fetus escaped into the abdomen during removal of the sac. At the first illness, ectopic pregnancy was diagnosed. It was not examined for at the operation later.

[Slide No. 11 is an uterus and its appendages, showing a large dilatation of the fallopian tube, which contains a fetus of about the third month, connected by a well-formed umbilical cord to a placenta lining the walls of the dilatation. The cord is inserted into the aspect of the placenta which is attached to the anterior inferior part of the dilated tube. The left tube is also dilated to more than half an inch in diameter, and its fimbriæ are effaced; it passes under the ovary, which is atrophied and flattened as on the right side. The ovary and tube were partly united by old adhesions. The cavity of the uterus is laid open anteriorly, and on it is suspended a decidua, cast from it a day before the patient's death.

From a woman, aged twenty-two, admitted into hospital for severe pains in the hypogastrium of a month's duration. She asserted that she had menstruated regularly till a few days before admission. A hypogastric tumor was discovered; it appeared to contain fluid, and to be surrounded by large pulsating vessels. Because of the peculiar discoloration of the inner aspect of the vulva, pregnancy was suspected. The tumor was tapped, per rectum, with an aspirator, and a pint of bloody fluid was thus removed. A styptic solution was injected to check hemorrhage, and at once removed.

The patient died suddenly four days later, having passed a decidua on the third day. Blood was found diffused over the peritoneum, and issuing from an aperture in the upper part of the back of the tubal cyst.

[The next slide showed another tubal gestation, an uterus, with the fallopian tubes, ovaries, etc. The right fallopian tube, near its outer end, is dilated into a sac, about an inch and a half in diameter, by a retained ovum. The ovum is laid open, and a fetus, nearly an inch in length (fifth or sixth week) with the extremities just budding, and parts of the amnion and other membranes are exposed. There is a large corpus luteum in the right ovary. The uterus contained no

decidua, nor has the injection of its vessels displayed any increased vascularity.]

The following measurements may be some guide to the age of an embryo:

Ovum-entering tube 1-125 in.

At the end of 1st month = 1-3 in.

At the end of 2d month fetus = 1 in. (22 millimeters).

At the end of third month fetus = 3 ins. Sex of genitalia recognizable.

At the end of 4th month fetus = 5 ins.

[A case where the fetus had escaped into the peritoneal cavity was shown in Slide 13. A uterus, with the fallopian tubes and ovaries. The middle portion of the left fallopian tube is dilated into an oval cyst, filled with coagulated blood, in the anterior wall of which is a ragged opening, through which the small fetus suspended to the preparation has escaped. Clots of blood are adhering to the uterine ligaments and the peritoneum. The uterus is enlarged as in the early stages of pregnancy, and when recent was said to have been "vascular, with a slight decidua."

E. H., aged thirty-six, married, and the mother of one child, whilst carrying a heavy burden, suddenly became faint and fell down. She was found in this state by her neighbors, and carried home. When seen soon after by her medical attendant she was suffering from great exhaustion, perfectly conscious, and did not complain of pain, except a little at the pit of the stomach which had existed for several weeks. There had been no vomiting. Stimuli were administered, warmth applied to the extremities, and an aperient ordered. On the following morning she was found with a bloodless countenance and a feeble fluttering pulse, but without any pain. In the course of the day, while being lifted on to a night-stool, she expired.

When the abdomen was opened a fetus, scarcely two inches in length, was found floating in serum above an immense coagulum of blood, which filled the pelvis and lower portion of the abdomen.

The viscera were healthy, but bloodless.

If the fetus, as in the last case, escape into the peritoneal cavity the risk to the mother is enormously greater than if rupture takes place into the broad ligament, where the pressure

exercised by the broad ligament and connective tissue thereof arrests the bleeding and saves the mother. The fetus may develop in this situation and rupture again take place—secondary rupture—this time into the peritoneal cavity, once more threatening its own life and the mother's. Or, it may become absorbed if young enough or may form a lithopædion. As in intra-peritoneal rupture so in this extra-peritoneal form the fetus may remain in the tube alive or in a molar condition, and hemorrhage take place into the broad ligament. This is what happened in a case sent to me by Dr. Tindall which has been fully described elsewhere. The physical signs are very characteristic.

A woman married four and a half years; never pregnant. Eight weeks before she came under my notice began to menstruate a fortnight late. One week later, after cycling, she was suddenly seized with "griping pains like knives" in the private parts, and was kept in agony for an hour. She could not stand, but "crouched on the floor." Bleeding came on and continued throughout until operation. The day after the attack of pain she went downstairs, but pain recurred, and the following day also. Five days later she again had pain, "like pulling her inside out," in the groins and the vagina. The pain, after another week, extended to the bowels and to the back, which felt "as if breaking." Tenesmus of rectum and evacuation of mucus persisted.

Here the pains began low in the pelvis, and, as recurring hemorrhages distended the broad ligament, they extended upwards to the abdomen, rupture having occurred extra-peritoneally seven weeks before I saw her. Hemorrhage into the sac had continued on and off all that time, for Dr. Tindall had watched the growing distention of the left lower abdomen during the week prior to her removal to London. The bladder and uterus were drawn up out of the pelvis to an unusual degree, and a bulging mass near the vulvar orifice behind the uterus filled the pelvis. The pregnancy cannot have been of more than six weeks' duration, and no trace of the fetus was discovered.

A satisfactory recovery after operation took place.

[Another excellent example of a broad ligament sac is seen in Slide 14 (Royal College of Surgeons, 4695 G). Here secondary rupture had occurred. The sac contains a fetus about three months old, the head of which is projecting

through the ruptured wall. At the lower part of the sac the corresponding ovary may be seen.

From a married woman, aged twenty-five, who had several violent attacks of pain in the abdomen and amenorrhea during a period of three months. Laparotomy was performed on account of severe symptoms of internal hemorrhage. Much blood-clot was found in the pelvic cavity. The patient recovered.

Symptomatically it is not possible to distinguish between the intra- and the extra-peritoneal ruptures except by the fact that the extra-peritoneal ruptures are not fatal at once, if at all. Sudden pain and collapse exist in both, and, of course, the collapse in the intra-peritoneal variety may, from bleeding, be fatal. The pain in the extra-peritoneal variety begins lower down; in my case just described commencing in the private parts, to use the patient's words.

Physical signs are certainly more helpful. A bulging lump—the distended meso-metrium—may be felt near the vaginal orifice, at the posterior part, traceable upwards to the abdominal cavity, where it is felt quite distinctly, and more pronounced on one side. The distending broad ligament draws up the uterus and bladder out of the pelvis into the abdomen, so that even the cervix may be felt bimanually above the symphysis. Lateral displacement of the uterus also occurs. The second change (*B*), which may lead to rupture, is where blood is effused between the chorion and the amnion. The blood comes from the fetal tissues, as shown by the nucleated red cells and the excess of colorless corpuscles. This may destroy the life of the embryo at once or at a later date; at any rate, the effect of the hemorrhage is suddenly to increase the size of the sac, and, in proportion to the quantity of blood poured out, is the likelihood of immediate rupture. The younger the embryo the more easily is it killed. If not killed by one hemorrhage further hemorrhages will probably occur. Another result from the bleeding from the fetal (chorionic) source is that the relation of the parts is disturbed, and hemorrhage on a larger scale from the maternal tissues occurs, thus further endangering the life of the embryo and the integrity of the tube. Where the bleeding is fatal to the

embryo, development is arrested, the clot consolidates, the embryo itself may be absorbed, and a tubal mole is thus formed. The bleeding and consequent distention of the tube may, however, be so gradual that small rents only occur in the wall of the sac, these rents being extended from time to time or fresh ones taking place. Healed rents may sometimes be seen on the surface of an extra-uterine gestation sac. These facts explain the serial pains alluded to in the earlier section of this paper and the spreading of them over two or three months. Much discussion has occurred as to the cause of recurrent pains, but there appears to be no doubt that they are due to repeated hemorrhages or to slight peritonitic attacks induced thereby. When the abdomen is opened, in these cases of tubal mole, with pelvic hematocoele (so-called) adhesions between contiguous tissues and structures is the rule. It is not necessary to invoke a hypothetical tubal colic to explain these pains.

Of late years it has been established that abortion from the tube may occur just as it does, for like reason, from the uterus, and, similarly, a "missed abortion" may occur—this, in my opinion, being quite frequent. By missed abortion I understand the retention of a dead embryo or mole in the tube, together with bleeding from the patent tube, a laminated blood-clot being thus formed in the pelvis as in gradual rupture. This is a most striking condition, the gradual bleedings from the tubal orifice, or from the small tubal rupture, forming a mass in the pelvis which baffles diagnosis unless the history is clear. I have operated upon three such cases, the first of them coming from the out-patient department of the London Homeopathic Hospital. The specimen is on the table, and also a drawing with explanatory letter-press, both of which I pass round for your inspection.

August 5, 1897.—Patient, aged twenty-one. One child. Always regular until two months before admission, when the period arrived a fortnight before due. Seemed like the previous periods; was followed in a week by pain in the right iliac region, especially after any exertion. The hemorrhage ceased when the pains began, but was followed by a brownish discharge until admission.

*P. v. cervix* is high up and directed backwards, and pushed

to the left by a large rounded elastic swelling on right side. The uterus lies to the front. On August 26 I opened the abdomen and found the right tube dilated, and containing dark altered blood. Attached to the ovary was a mole about the size of a walnut, which had escaped from the rent in the fallopian tube (see specimen). Recovery was good.

The second case was sent to me at this hospital by Dr. Sandberg. A curious appearance is seen in the drawing. The whole thing is a clot, but it was encapsulated by organized lymph, which looked to the naked eye like the fallopian tube. A circular orifice in this capsule looked like a very patent abdominal tubal ostium, but it is only a rent.

Mrs. L., married six months. Admitted July 4, 1899. Last regular period, February 4. March period did not appear punctually, and a few days after it was due, sharp abdominal pain of an intermittent character set in. This lasted three weeks, with gradually increasing severity, and accompanied by frequent vomiting—two or three times daily. The pain obliged her to go to bed after about ten days, and got easier about the end of March, when the catamenia appeared. Hemorrhage lasted two months, slight in quantity, and mixed with clots. At the end of May, the bleeding ceased, and she had very little pain in June, but a feeling as if something were swelling up on the left side of the abdomen.

On July 3 abdominal section performed, and the right tube was found to be very much dilated by a mole, its free extremity was extremely patulous. Good recovery. Some blood in the pelvis, adhesions amongst pelvic viscera, but no free blood in abdominal cavity. No sign of rupture in the tube.

The third case was operated on at the Hampstead Hospital, and sent to me by Dr. Weaver. It is an instance of tubal abortion, the pelvis becoming filled with organizing blood clot forming a true hematocele, and the tubal ostia (abdominal) becoming glued up by the peritonitis set up, forming double hemato-salpinx.

Patient had amenorrhea for two months, of which she spent three weeks in bed on account of pain. After the two months, vaginal hemorrhage began. She had some dysuria in the early part, but gave no account of any severe attack. The hemorrhage lasted six weeks. On examination, a mass was found extending upwards to within one and a half inches of

the umbilicus, and on its surface, to the left, was a smaller sausage-shaped lump of semi-elastic consistence, thought to be a distended tube. The large mass could be felt also in Douglas's pouch, and there was one portion quite elastic, which turned out to be the hemato-salpinx. Chorionic villi were found. The rest of the mass was a laminated clot with a distinct fibrinous capsule, and the small sausage-shaped portion was simply a series or string of clots, which, presumably, had been molded by the movements of the intestine into the peculiar shape.

This case and the last one furnish good examples of the laminated hematocele due to gradual rupture of a tube, or to the blood-drip from a damaged embryo into the peritoneal cavity through the patent ostium. These cases present none of the urgency of complete rupture into the abdominal cavity. If early, small, and symptomless, they may be left to nature.

The following notes on Alban Doran's specimen of tubal pregnancy show that it is sometimes difficult to determine by proof the nature of the tubal swelling; but these tubal moles are now readily recognized even when proof is lacking. [A right ovary with the fallopian tube removed by operation. Immediately beyond the fimbriated end of the tube is an oval sharply circumscribed clot, two and a quarter inches in its chief diameter. At one side of the clot there is a cavity suggestive of an amniotic sac, but no amniotic lining was discovered on microscopic examination. Histological examination of the peripheral part of the coagulum, from different situations, shows a capsular formation of hyaline fibrous tissue, but no chorionic villi.

From a woman, aged twenty-five, married six years, but childless. For three months a discharge of blood had been noticed from the uterus.

On examination a mass could be felt in the right fornix. There were extensive intestinal adhesions.

Slide 18. A right fallopian tube and ovary removed by operation. The outer end of the tube is dilated into an oval cavity containing blood clot and a molar pregnancy. In the recent state this tubal cavity communicated with the pelvic pouch of the peritoneum through the widely dilated abdominal ostium of the tube.

From a woman, aged twenty-eight, who was admitted to a hospital with symptoms of ruptured tubal gestation.

On the way to form a mole is a fallopian tube which has been distended by a tubal pregnancy into an oval sac, three inches by two in its chief diameters. The cavity is lined with clot, more thickly at the poles than elsewhere. The internal surface of the clot has a smooth amniotic lining, the sac of which contains a well-developed fetus three-quarters of an inch in length, attached by a short swollen umbilical cord. The ovary, which is normal, lies below the dilated tube; in the vicinity of this is a tortuous portion of the uninvoluted uterine segment of the tube. The outer aspect of the dilatation presents a few delicate adhesions, but for the most part is smooth and overrun by a prominent plexus of vessels.

The parts were removed from a woman, aged twenty-four, married six years, with two children, of whom the youngest was over 3 1-2 years of age. Menstruation was last noticed fourteen weeks before the tube was removed; seven weeks later hypogastric pains set in, with a free show of dark blood which continued daily. A violent attack of pain with expulsion of a clot took place four days before the operation. The gravid tube lay in Douglas' pouch, behind and to the left of the uterus, displacing the latter with the left appendages upwards. Recovery was complete. Alban Doran.

(*To be Concluded.*)

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## *Current Comment.*

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H. A. Cummins, M. D.:

The term *milk fever* is commonly used in text-books on midwifery to denote a febrile condition arising about the third day after confinement, and often attributed to commencing secretion of milk. Dr. Galabin, in his "Manual of Midwifery," notes that physiologically there is no connection between the secretion of milk and the pyrexia, but he does not appear to give a reason for the frequent occurrence of the pyrexia at this particular time.

As before mentioned, all other causes of fever having been

excluded, there is frequently a rise of temperature about the third day, particularly in primiparæ; a careful examination of the nipples invariably, I may say, discloses a slight abrasion of the skin or a very minute, almost microscopic, crack in the tissues of the nipple, often in the central depressed portion. This, if neglected, rapidly goes on to a fissure, now easily seen on account of its large size, and is probably followed by mastitis, the result of entrance of pyogenic organisms.

From the above it would appear that during the first few days of nursing, the skin of the nipples, unaccustomed to its new duty, is easily damaged, and minute cracks, difficult of detection, are produced by the act of suction; these form a suitable nidus for the growth of organisms, which in the intervals of suckling grow with rapidity through the ducts into the interior of the gland, and cause obstruction by inducing inflammatory exudation. Mild symptoms of mastitis follow, often attributed to hypersecretion of milk, and give rise to a febrile condition, the so-called "milk fever."

Acting on this theory, Miss Dryland, matron of my hospital, undertook the following treatment: All patients on admission, either before or during labor, had the nipples thoroughly cleansed with soap and water and then thickly painted with a solution consisting of 1 part each of glycerine of tannin and sulphurous acid with 2 parts of water, as recommended for cracked nipples by Dr. Playfair. This solution was applied every few hours up to the sixth or seventh day after confinement, whether there was an abrasion or not, until it was considered that the nipples were in a fit state to withstand the irritation caused by the suction of the child. Sterilized or antiseptic pads were kept over the nipples.

This treatment has been in use for the last three years. In the majority of cases it prevented the occurrence of the so-called "milk pyrexia" altogether, and was of great benefit to mother and child. The breasts in many cases became full, but there was no mastitis or fever. Of 100 unselected temperature charts of patients admitted before this special treatment was adopted, 12 showed normal temperatures, whereas since the treatment was commenced 100 unselected charts show 31 normal temperatures.

I may mention that during the later months of pregnancy pain in the breasts with turgescence appears to be due in a similar manner to the inward growth of organisms which fatten on the serous exudation from the nipples incident on the pregnant state. The treatment before described is useful in such cases, but only a few applications of the solution are necessary to relieve the symptoms.

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M. E. Douglass, M. D.:

No man is fitted to attend a case of obstetrics until he has the important symptoms of the most prominent remedies at his tongue's end.

The more important remedies for pains ceasing are: Actea, bell., cauloph., kali carb., opium, puls., and secale. While this list does not, by any means, comprise all the remedies for this condition, I consider them the more important ones.

When the pains are distressing but little or no progress is made; the remedies most frequently called for are: Cham. gels., kali carb., sepia.

When the pains are spasmodic: Cham., gels., hyos., puls.

When the pains are too weak: Actea, bell., cannabis.

It is, of course, needless to give indications for these several remedies, as the special application of the indicated remedy can best be determined by a reference to your *materia medica*. Let me urge you to make yourselves thoroughly familiar with the characteristics of these drugs. You will be most agreeably surprised at the results following the administration of a single dose of the indicated remedy.

Another condition in which the medicinal forceps are preferable to the cold steel is convulsions. This is a frightful complication, and one well calculated to cause a man to lose his head. Yet, if he will fortify himself with the characteristics of a few of our valuable remedies and have them ready for use, he will feel less disposed to clap on the forceps and hastily empty the uterus.

Among the important remedies suitable for this condition are: Acon., actea, bell., cupr., gels., hydrocyanic acid, hyos., stram., verat. vir., cicuta, glon., kali brom., opium, passiflora.

We would think of aconite when there was a hot dry skin, thirst, restlessness, fear of death, cerebral congestion, spasmodically contracted or rigid os uteri. Having these symptoms present in any given case, a few doses of aconite will alter the conditions, averting the convulsion which, otherwise, is liable to follow.

In actea the spasms are preceded by great mental excitement, with visions of objects not present, and are followed by languor and relaxation of the whole system. The paroxysms are very violent. Convulsions with spasmodically contracted (or rigid) os uteri.

Belladonna is the chief remedy, and always the first to be considered in puerperal convulsions. The indications are too-well known to need any description here.

In cuprum the spasms begin as cramps in the fingers and toes, or in the whole extremities; or even in the abdomen. Spasms with or preceded by violent vomiting; opisthotonus with every paroxysm, with spreading out of the limbs and opening of the mouth.

Gelsemium probably ranks next to belladonna in pregnancy of value. Head feels large, or she has a stupefying occipito-frontal headache, with great muscular prostration. She feels and looks stupid, face dark red, speech thick, pulse slow and full, symptoms premonitory of convulsions; albuminuria.

In stram. the patient appears terrified and shrinks back from every object on opening her eyes; cries and frightful visions; copious perspiration with the spasms, which are caused or renewed by the sight of bright objects and sometimes by contact.

Veratrum Vir.—Spasms from emotional causes. Furious delirium. A full, hard pulse is characteristic of this drug; cold, clammy sweat; convulsions before, during and after labor, especially where mania remains after the convulsions cease.

In cicuta we find strange contortions of the body and limbs during the paroxysm, with blue face and frequent interruptions of breathing for a few moments.

Kali brom.—This drug should be given in material doses. I usually give twenty grains at a dose, and employ it when

there is a great deal of nervousness with or preceding the spasm. It may be administered per rectum.

I have had, in a few cases, very gratifying results from passiflora in the tincture, giving drachm doses every fifteen minutes. It seems to act best in those cases when the patient has been troubled with insomnia for some time preceding the confinement.

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J. G. Moffat, M. D.:

The following case of *ruptured ectopic gestation* seemed of interest chiefly on account of the somewhat misleading character of the symptoms complained of for a week or ten days prior to the final attack which terminated in operation.

Mrs. L., widow, in domestic service, 29 years of age, was, about midnight on January 23, 1902, wakened up by very acute pain in the region of the stomach. She got up out of bed, walked about for some little time, but as the pain showed no signs of abating, she went down stairs and aroused her mistress. She was then put back to bed and hot poultices applied, but in spite of this and morphine administered hypodermically, no relief came until 10 o'clock the next morning. Before the morphine was given she had vomited bile-stained mucus freely. There was not at this or any future time any jaundice. No history of any indiscretion in diet was given. The diagnosis made was "biliary colic." The patient got up on January 25, but could not bear the pressure of her clothing, nor could she stand erect on account of abdominal pain. On January 30 she had another similar seizure, but this was much less severe, so that she was able to be up the same day, and on the day following she went to stay with friends to recuperate.

On February 2 I was urgently requested to see the patient whom I found in bed retching and vomiting bile-stained mucus as before, and looking extremely ill. She was blanched, with a weak runaway pulse of 140, and was complaining of severe pain in the lower part of the abdomen, which was distinctly distended, more particularly over the left iliac region. The history I got was this: On the previous evening, feeling comparatively well, she went out for a walk,

but had not gone very far before she was seized with acute pain in the left iliac region accompanied by faintness and sickness. She was at once conveyed home, put to bed, and hot flannels applied, but her condition grew steadily worse until my visit next day, when I found her as described. I also learned that she had had twins in 1892, since which time she had suffered more or less from pain in the left iliac region. Menstruation had been regular until the previous December, during which month she was unwell three times, for a few hours each time. During January of this year she was unwell several times, also for a few hours each time, and accompanied by pain. A vaginal examination showed the uterus slightly enlarged and the cervix softened; there was tenderness in the left fornix, but no parauterine tumor could be made out.

The woman was evidently suffering from some form of internal hemorrhage, probably from a ruptured ectopic gestation, and was manifestly in a very grave condition. I therefore advised operation without delay, and with her consent had her taken into hospital. I operated as soon as possible—which was about midnight—after her admission. In opening the abdomen in the middle line between the umbilicus and pubes, dark blood clot could be clearly seen through the peritoneum, and on entering the cavity a large quantity, probably about 3 pints, of dark fluid blood and clots escaped, in which was floating a three months' fetus. I found the sac continuous with the left Fallopian tube, which I ligatured and removed. Hemorrhage, presumably from the broken-down adhesions, was troublesome, but was controlled by flushing the cavity with hot saline solution. This, also, I feel sure, very materially helped to combat the collapse, as when I commenced the operation the pulse was 144, and when the patient was returned to bed it had fallen to 128. A Keith's tube was left in the lower end of the wound, and was removed on the third day. A complete decidua was passed, also on the third day. Nothing more remains to be said, excepting that her recovery was uneventful, being, however, protracted, owing to an attack of acute rheumatism which came on in the second week of her convalescence.

In going over the case, the interest to me is mainly in connection with the symptoms of January 23 and 30, and their proper interpretation. Whether they were really attacks of biliary colic, or were associated in some way or other with the ruptured tube, it is difficult to say. If the latter, and a correct diagnosis had been possible at the time, the patient would have been in much better condition to stand operation, and consequently the risk to life would have been less.

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S. F. Long, M. D.:

I submit a consideration of the subject of *circumcision with new methods of treatment*: Every adult male should have the glans penis perfectly uncovered and free from any foreskin, simply to be clean and healthy. To accomplish this every male child should be properly treated during infancy or early childhood. I am convinced that the foreskin is a wise provision of nature, and its removal by any operation on the infant or child is entirely unnecessary. Years of observation have taught most practitioners that every male child is born with a long and more or less contracted prepuce, and a majority of these are adherent to the glans penis. As a result of the "let nature take its course" plan, the child passes through its babyhood and childhood, and if no serious complications have arisen during this time in the way of balanitis, or some serious nervous affection, or a paraphymosis necessitating an operation, it is probable that the boy will arrive at manhood with his long foreskin still contracted, and painful on the least attempt at pushing it back.

Experience has taught me in my own practice, that the perfectly natural condition can be readily brought about in all cases by a simple method of treatment. To accomplish this, I simply dilate the little foreskin, break up the adhesions, and allow perfect freedom without the use of scalpel or removal of tissue.

I feel that a contracted and adherent prepuce is an irregularity and should by all means be corrected. The method of treatment suggested may be done at any time prior to puberty, but earlier is advisable, as it may be the means of preventing serious complications in the health of the child.

Within a few days after the baby is born, and while being held in the lap of the nurse, I apply a few drops of a two per cent. solution of cocaine, preferably with a small dropper, into the preputial opening, holding and drawing forward the little prepuce with the other hand. After a few minutes I gently insert the points of a small dressing or hemostatic forceps into the opening, being careful to draw the foreskin well forward, so as not to injure the meatus urinarius, and by gently widening the blades, succeed very readily in dilating sufficiently to push the foreskin well back beyond the corona glandis. If adhesions are present, I simply separate them with a small groove director or any suitable blunt instrument that may be found in my pocket case.

The parts should be carefully washed with warm water and soap, as smegma is always present, and then anoint with oil or vaseline, being very careful to draw the foreskin completely over again, so that no constriction of the parts can possibly occur. The nurse is instructed to push the foreskin well back each morning while bathing the baby, and after washing and anointing to bring it forward again as directed by the physician in attendance. And finally, the mother observes the same frequent care until the foreskin is perfectly free and diluted, when once a week will be often enough to repeat the process. I find it necessary where the foreskin is unusually long and narrow, to repeat the diluting with cocaine and forceps after a day or two, or when any slight irritation has subsided. By this method the seeming surplus amount of preputial tissue is largely utilized in the dilating; the long, narrow condition is converted into a shorter and wider one. This done, the child's penis has been converted into the same natural free state, as formerly observed.

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T. J. Watkins, M. D.:

I will report an extremely interesting case, now before me, of *carcinoma of uterus and left broad ligament*. Mrs. F., age forty-three, has been ill about one year. She complains of (1) metrorrhagia, (2) pelvic pains, especially in the left side, (3) leucorrhœa. She is emaciated and I note the peculiar color of the skin, which gives a suggestion of cachexia. Although her

pain has been quite severe, she has been up and about most of the time, attending to her household duties. The hemorrhages have occurred irregularly, but have been profuse. The leucorrhœa, which was watery at first, has of late become muco-purulent, bloody at times, and has a slight odor.

I expose the cervix and find it to be very large. There is an ulcerated surface about the inner os, more marked on the anterior lip. The edges of the ulceration are indurated and a slight odor is perceptible. On conjoined palpation I find the uterus about normal in size, with an induration in the region of the left broad ligament extending from the cervix to the pelvic wall. The right broad ligament is negative. The mobility of the uterus is diminished.

The diagnosis is carcinoma of the uterus, which has extended into the left broad ligament. The vaginal walls are not involved. A small piece of the uterus has been removed for microscopic examination. It proved to be a typical carcinoma. The carcinoma developed in the glands of the cervix, a variety which is usually not diagnosed as early as those which have their origin on the vaginal surface of the cervix. Extension to the broad ligament, however, occurs quite early.

The ulceration is slight, which accounts for the absence of much hemorrhage. Severe hemorrhages in these cases result from ulceration involving the blood-vessels.

The odor is slight, although the disease is far advanced, which can be explained by the absence of much tissue death. These cases all become infected, otherwise there would not be any odor. For instance, there is never any odor from carcinoma of the ovary in the absence of infection.

Involvement of the broad ligament has been a contra-indication to hysterectomy, but in this case I propose to do a hysterectomy preliminary to the use of the X-ray. Were it not for the hope that the X-ray treatment would be of value, a hysterectomy would be unjustifiable in this case, as it is impossible to remove all the carcinoma in the left broad ligament. The inguinal glands are not enlarged as usually occurs if the vaginal walls are involved.

The technique of this operation is much the same as any vaginal hysterectomy. I first grasp the cervix with these

curved scissors and amputate the cervix as high up as possible in order to remove as much of the carcinoma as I can, thus diminishing the danger of sepsis and the possible transplantation of the carcinoma cells. Next, I thoroughly cauterize the entire surface with carbolic acid and iodine. Then I make an opening into Douglas' pouch through the posterior fornix and open the peritoneum through an incision in the anterior fornix. The body of the uterus is delivered into the vagina. The upper portions of the broad ligament external to the ovary and tube are clamped on either side and incised between the clamps and the uterus. These two clamps compress the ovarian vessel on either side. A clamp is now placed on the remaining portion of the broad ligament and this is incised between clamp and uterus. The uterus, ovaries, and tubes are now removed.

With a short straight needle, threaded with medium-sized catgut, I replace each clamp with a suture. This is done principally to diminish the amount of pain. The left broad ligament is fully one inch thick and is the seat of a carcinomatous infiltration. I now partly close the vaginal incision with catgut and insert a small iodoform drain into the peritoneum. This completes the operation.

At the end of one or two weeks, depending upon the rapidity of convalescence, the X-ray treatment will be commenced. This will be given daily. The exposures will be made through a large-sized, glass vaginal speculum and also over the lower part of the abdomen.

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#### L. T. Brock, M. D.:

In a case which I shall term one of *rudimentary uterus* was a woman born of healthy and robust parents, being one of four girls, two of whom were mothers. Arriving at the age of maturity, she had symptoms of menstruation every two or three months for some two or three years. Having arrived at the age of seventeen, she began to have her menstrual discharge, but a small amount and with great pain. This condition existed for three years, when, at the age of twenty, she married a strong, healthy, robust man, twenty-seven years of age, who was very desirous of having heirs. None were forth-

coming after three years of anticipation, during all of which period menstruation came on with more or less regularity, but was so painful that it was almost unendurable, and her attending physician gave her sufficient morphine to control the pain, and she became to some extent addicted to its use. For that and the dysmenorrhea, together with the sterility, she was taken to the city and placed under the care of an eminent gynecologist, and he diagnosed the case as immature uterus, and under the circumstances he advised hysterectomy, assuring the patient that her suffering would continue and pregnancy was an impossibility under the circumstances.

A monetary consideration prevented the operation, and another physician was consulted, and he made the same diagnosis and recommended the same treatment as the former physician had, telling her that she could never become a mother.

While it is said, and I presume truthfully, that a drowning man will grab for a straw, a woman in equally perilous straits will try another doctor. So this woman came to me and gave me a history of her case, telling me at the same that she had no money to speak of to spend for treatment. I made an examination and found the ovaries about the normal size, and could outline them very readily, and the uterus, such as it was, was in a normal position and locality. I inserted a sound into it to the fundus, and it was just one inch from the external os of the fundus, and would admit only a very small sized uterine sound. Palpation by vagina and rectum proved clearly that one inch was the size of the organ, and I told the lady I could see no possible chance for her ever becoming a mother, but I thought that her uterus might be dilated to such an extent that her menstruation might be made endurable without the use of morphine. She then told me what her other physicians had told her, and that they did not give her any encouragement as I had done: but, inasmuch as I had said that I thought dilatation would relieve her suffering to some extent, during her menstrual period, I stayed with it, and a line of treatment was talked over, and I was engaged as her physician. I made an appointment with her for the following day, and during that time she prepared herself and found a desirable place to room.

She kept her appointment to the minute. I gave her an anæsthetic, and dilated her uterus as much as was necessary, and it looked just about the size and shape of a lady's thimble. I packed it with gauze and left the ends hanging out of the vagina, telling her that if she experienced much pain to remove the dressing. She returned the next day at the appointed hour.

In the meantime I had consulted the physicians to whom she had been, and they told me the conditions just as I had found them, and the only way by which in their opinion she could be made a well woman was by hysterectomy. She returned at the appointed hour, and she had not removed the dressing, inasmuch as she had experienced no pain, but had symptoms of being unwell, as she explained it, so I removed the dressing and dilated her uterus as much as I could without an anæsthetic, and repacked it and told her the same as I had before, and for her not to return for two days. When she did return she had experienced some pain and had removed the dressing. I then placed within the uterus an electrode and externally over the fundus a sponge attached to a Faradic battery, and treated her thus for about fifteen minutes every day for seven days, and at the end of that time she menstruated, but was practically free from pain—so much so that she did not take any morphine. As soon as she ceased menstruating I commenced with the electrode again, and treated her every day, with the exception of two or three which I missed, for twenty-two days, when she menstruated again with less pain than before. I continued the treatment for three months. During that time she did not take a dose of morphine, and claimed that her menstruation for the last period was no more painful than her lady friends said theirs was. At that time the uterus was twice the size it was when I commenced the dilatation and electric treatment. She then dropped out of my sight, and I did not see her for more than four years. She then gave me the history of the past four years, and said that what I had told her had proven true, as she had never been pregnant; that her menstrual period was endurable, and she had not taken any morphine, except in two or three instances, when she had contracted a cold during

her period, when it was very painful. She also told me that she had just recovered from an attack of typhoid fever about one or two months before, and that she had not menstruated since she had been stricken with the fever, but that her physicians told her that it was due to the fever, and she asked if it were possible for her to be pregnant. I told her as I had told her four years previously, and as the other doctors had told her, it was an impossibility for her to ever become a mother. I met her on the street a number of times, but did not think anything more of the circumstance, until one night her husband came for me, saying that his wife was very sick and was taken something like she had been four years ago with her menstrual period. I went with him and saw at a glance that she was in great distress and had all the objective symptoms of an abortion. She had been flowing some, and pains came on every three or four minutes, and had I not known, or thought I did, that she was not pregnant, I should have made a snap-shot diagnosis of an abortion. As soon as I could prepare my hands I made a digital examination, and my hand came in contact with a hard lump, which felt very much like the head of a fetus; so, at the crisis of the pain, I made some traction on the object and it moved, so I made more traction, and delivered her of a fetus six or seven inches long, and which should have been at least three months old. Her pains ceased, and she made a rapid recovery. In about six weeks she menstruated, and has menstruated every month since that time, which has been about eighteen months, with no pain or disturbance. Her uterus seems to be perfectly natural and of the normal size and depth. She has been living with her husband continually ever since, but has never become pregnant, which, no doubt, is her voluntary fault.

I consider the development of the rudimentary uterus due to the dilatation and the treatment by the Faradic current.

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G. L. Brodhead, M. D.:

I will report three cases of persistent *occipito-posterior position of the vertex*. *Rotation with forceps*, occurring in hospital practice. S., age twenty-four, II-para, made application for care during her confinement on November 20, 1900. From

her history it was learned that she had had one child two years before, born with instruments, the child being alive at the present time. On examination, the patient was found to be pregnant about 8 1-2 months, the presentation being vertex in the brim, the position R. O. A. The fetal heart was heard in the R. L. Q. of the uterus, frequency 136, regular. The pelvis was spacious, and the vaginal examination was satisfactory. Labor began at full term on December 5, 1900, at 7 A. M., the position having changed from R. O. A. at the time of the anti-partum examination to R. O. P. at the time of labor. Labor proceeded normally, the vertex coming well down to the pelvic floor, in R. O. P. position. At this time it was thought best to rotate the head to R. O. A. position, in order to facilitate delivery and save laceration of the perineum. Under slight chloroform anæsthesia the solid blades of the Tucker forceps were applied to the sides of the child's head, and rotation was easily accomplished, the position being changed to R. O. A. The head was then held in that position for several minutes, until the body had turned as well. The blades were then removed, reapplied, and the head extracted in the usual manner. The child weighed eight pounds, respiration was spontaneous and immediate. There were no forceps marks, and no laceration of the perineum.

Another case was that of M., age twenty-four, I-para, applied for ante-partum examination on August 29, 1899. Her history was negative, the date of her last menstruation, January 29, showing the date of probable labor to be about November 7. The presentation was vertex, the position L. O., the pelvis normal. On November 13, a labor call was sent in, and the house physician arrived at 6.10 P. M., the patient was found to be in the second stage of labor, the membranes having ruptured spontaneously at the beginning of labor, twelve hours previously. The head was engaged in the brim of the pelvis, but was poorly flexed in the R. O. P. position. During uterine contractions repeated efforts were made to increase flexion by pressure upon the sinciput, but with little result. At the end of three hours, with strong pains, the head had come down well into the pelvis, there was quite a thick caput, but the position was still R. O. P. As the contractions were

growing feebler, and as the patient had been in the second stage for more than three hours, it was thought best to use forceps. At 9.25 P. M. the solid blades of the Tucker forceps were easily applied to the sides of the head, and rotation to R. O. A. was easily accomplished, the blades being removed at 9.37 P. M. The pains were fairly good, but the head did not advance, and when re-examined, the head was found again in R. O. P. position (evidently the head was not held long enough in R. O. A. position to allow the body to rotate as well, for if the body had turned, the head would not have rotated back to R. O. P.). At 10.05 P. M. the blades were re-applied, the head again rotated to R. O. A., after which the blades were removed, reapplied, and the head brought well down until the vulva was well distended, when the forceps was removed (10.25 P. M.). Birth occurred at 10.33 P. M., the child breathed spontaneously, was not in the least asphyxiated, and weighed 8 3-4 lbs. There was a slight contusion at the outer canthus of the right eye, but otherwise the child was in perfect condition. There was a slight laceration in the right sulcus of the vagina, 1 cm. deep and 2 cm. in length. The child did well and the mother made a good recovery.

The third case is that of K., age thirty-four, III-paro, giving a history of two easy labors, began her labor at full term on July 2, 1900, at 10 P. M. The presentation was vertex above the brim, the position R. O. P.

The first stage lasted seven hours, and at the end of one and one-half hours in the second stage, the head was well down in the pelvis, but showed no tendency to rotate whatever. The solid blades of the Tucker forceps were easily applied, locked, and the head was easily rotated to R. O. A., being held in that position until the body was found to have rotated also. The forceps was then removed, the blades reapplied, and delivery completed in the usual manner. The child weighed 7 lb., was in excellent condition, and there was no perineal laceration. Recovery was uneventful.

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J. C. Colclough, M. D.:

The treatment of *accidental hemorrhage* has been much discussed since Rigby first differentiated it from *placenta prævia*.

I classify accidental hemorrhage into external, concealed, and mixed varieties, but whether one or the other is present is purely accidental, depending only on the amount of separation of the membranes, which may or may not allow the blood to appear externally. In a typical case of concealed hemorrhage there are signs of bleeding, as shown by the anxious, restless condition of the patient, the cold clammy skin, and rapid small pulse. The uterus feels stony hard, allows no fetal parts to be felt, and no sound of any kind is heard. No contractions are present and no external hemorrhage. In mixed accidental hemorrhage, in addition to external bleeding there is more clinical collapse present than the amount of blood lost warrants; but the uterine condition is not so marked as in the purely concealed variety, and some sounds may be heard by the stethoscope. Retroplacental clots after delivery will confirm diagnosis. Great importance must be attached to the fact that in concealed and mixed cases the uterus is not only distended but paralyzed, and time must be allowed for the uterus to recover from this condition before sufficiently powerful contractions can come on. On this fact depends the rationale of the plugging treatment I advocate, as carried out now at the Rotunda Hospital, where my experience was gained.

The method of plugging used is as follows: The plugs are small sterilized pieces of cotton-wool the size of a large walnut. The vagina is carefully made aseptic, and the bladder emptied before the plugging is begun. This is carried out in the lithotomy position; the fingers of one hand act as a speculum and those of the other wring the plugs almost dry of antiseptic solution, and place the plugs in such a manner that the posterior fornix is first filled, then plugs are placed all round the cervix in a ring with a fair amount of pressure, and the plugging continued downwards until the vagina positively can hold no more. Next, a firm binder is put on from above downwards, and a perineal band fixed first to the binder in front, then carried over a thick pad of iodoform gauze placed over the vulva and plugs, and finally drawn very tight and fastened to the binder behind. Thus applied, the binder and perineal band compress the uterus very firmly, and the uterus

is forced down on to the plugs. Smyly states in a previous paper that the tampon thus applied (1) prevents external bleeding; (2) excites labor pains; (3) induces rapid dilatation of the os; (4) causes increased intra-uterine tension if the hemorrhage continues. The second and third statements may be doubted.

From an analysis of forty cases in which the plug and binder were used, the times of delivery afterwards were:

Under 4 hours	.	.	.	.	.	4 cases.
4 to 7 "	.	.	.	.	.	9 "
7 to 12 "	.	.	.	.	.	12 "
12 to 24 "	.	.	.	.	.	8 "
Over 24 "	.	.	.	.	.	3 "

These statistics do not tend to prove that the plug and binder accelerate delivery in any way.

In forty-two out of forty-three cases undoubtedly this treatment controlled the hemorrhage, and the explanation seems to be that, as the binder prevents external hemorrhage, any bleeding going on must remain inside, and so tend to raise the intra-uterine pressure until it reaches the height of the blood-pressure in the uterine arteries, then no more hemorrhage can occur. Smyly objects to the use of the plug and binder after rupture of the membranes, because then so much more blood would be required inside to take the place of the liquor amnii before equalization of the above-mentioned two pressures.

The causes of death in accidental hemorrhage may be:

1. A fatal hemorrhage which, according to physiologists, is 3 per cent. of the body weight.
2. Non-fatal hemorrhage and shock. This shock may result from rapid artificial dilatation of the cervix, or from the various operative forms of delivery employed.
3. Post-partum hemorrhage, often a very small amount, but in addition to that already lost being just sufficient to produce a fatal issue.

After the plug and binder has been used, the uterus soon becomes softer to the touch, and the patient rallies. Uterine

contractions come on in a variable period of hours, and, as a rule, spontaneous delivery occurs of plugs, fetus, placenta, and clots. After plugging nourishment must be given every hour; and injection of morphia is useful. A catheter is passed after six hours, and the binder should then be tightened. The plugs must be taken out after twenty-four hours and reapplied if necessary. Rupture of the membranes as a general rule does not hasten labor, and often fails to induce uterine contractions, because of the paralyzed condition of the uterus mentioned. Of eighty-two cases there have been only six deaths:

1. Concealed: Porro's operation.
2. Mixed: Moribund when first seen.
3. Mixed: Membranes ruptured before admission; rapid delivery.
4. External: Presumably a fatal loss before treatment.
5. Mixed: Ruptured uterus.
6. Mixed: Sepsis some days after delivery.

Rupture of the membranes should only be performed when the uterus is vigorously contracting.

The danger in severe cases is due to the uterine paralysis; to rupture the membranes in such a condition is only to lower the pressure and so excite more hemorrhage.

Hemorrhage can be arrested if the pressure within the uterus can be raised above that of the blood-pressure, and the walls at the same time be prevented from further distension.

The objection to plugging is only valid if the uterine walls cannot stand this pressure.

The plug and binder help the uterine walls materially to withstand this pressure.

Clinically, it is claimed for the plug and binder that—  
They control hemorrhage.

The patient is given time to rally.

They delay rupture of the membranes.

Delivery will be natural, and will not occur until the uterus acts sufficiently vigorously.

All risk of post-partum hemorrhage is done away with.

J. W. Taylor, M. D.:

A patient, a two-paria, was in strong labor of several hours' duration, the membranes having ruptured seven and a half hours previously. On examination, a large *cystic tumor obstructing delivery* was found blocking the pelvis behind the cervix. The uterus was not displaced laterally in any way, and seemed to fill the whole abdomen, being raised out of the pelvis by the tumor. The vertex was presenting and ready to engage the brim if the tumor could be removed. The question of operation lay between abdominal and vaginal section. In the former case, a very large incision, and possibly eventration of the uterus or Cæsarean section, would have to be done before the tumor could be reached; on the latter alternative it was noted that the vulva and vagina were converted into a soft cushion of dilated veins owing to pressure from above, and the danger of possible sepsis had to be faced. On the other hand, the vaginal incision would at once expose the tumor, so, after due consideration, the vaginal route was chosen. An incision was made at once into Douglas' pouch, and was followed by a large gush of venous hemorrhage; but the cyst presented at once, and was immediately tapped and seized. Hemorrhage soon diminished when the pressure was relieved by removal of about two pints of fluid. The cyst was drawn through the incision and its pedicle seized and clamped with long forceps. A stout ligature was tied above the forceps, and the tumor was cut away. The forceps were removed, but the ligature was left long for the present, being very high up. Delivery was next completed with forceps as the cervix was easily dilated, no cervical laceration resulting. The posterior incision, which had been plugged previously, was now opened up and carefully cleaned, and the ligature cut short. This proved to be a difficult proceeding, as the stump had not apparently come down after delivery, and had to be performed by the sense of touch alone. Fortunately, the stump was firmly secured, and what little bleeding there was came from the vaginal incision, and was easily controlled by a suture at each end. The rest of the incision was then plugged with iodoform gauze. The after-treatment and eventual results were uncomplicated. The fetus did very well.

E. B. Shanley, M. D.:

When a forceps delivery is necessary exceeding care should be used in *sterilizing the forceps*. Many physicians have water heated in a greasy old dishpan, dip the blades of the forceps in the water hurriedly, anoint them with hair-oil, lard or inhabited vaseline, put one blade on the bed while the other is being inserted, and think they are aseptic. Dipping the forceps in hot water cleans such a man's conscience, but it does not clean the forceps. They should be wrapped in whatever towels may be needed and boiled for fifteen minutes, and one should be kept in a sterilized towel while the other is being inserted. If they need lubricating dip them in your creolin solution. After delivery by forceps, if there is any suspicion that you have not been thoroughly clean, an intra-uterine injection of a two per cent. solution of creolin will clear up the field for you, and you can leave your patient with the satisfaction of a duty well performed.

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W. R. Gilman, M. D.:

The use of *rubber gloves* in surgical work has solved the problem of sterilization of the hands, and their employment in *obstetrics* is worth consideration and trial. A prolonged or even a normal labor case differs very much from a surgical operation in point of time and detail, and one cannot sit by the bedside for hours with glove-covered hands held at arms length or kept immersed in an antiseptic solution. It takes but a few minutes, however, to put on and take off the gloves, and if frequent examinations are made, they may be kept on the hands. They are particularly useful in the last part of the second stage, when one often cannot help touching unsterilized objects and cannot leave the patient to wash the hands thoroughly. The gloved hand is smooth, and much more readily cleansed than the bare hand by simple immersion for a minute in the solution of corrosive sublimate.

I have been using gloves more and more frequently during the past year, and am well satisfied with them. There are times when I still need the bare finger to distinguish accurately certain features of the head or birth canal, but I have no doubt that practice will enable me to recognize the landmarks perfectly with the gloved finger.

F. E. Chambers, M. D.:

The frequency of *puerperal septicæmia*, its gravity, the anxiety it always occasions the conscientious accoucheur, and the great divergence of opinion held regarding its treatment, invest the subject with a peculiar and painful interest to the general practitioner.

I therefore venture to report three cases of puerperal septicæmia treated by constant irrigation of the uterus, notwithstanding it is a method which some have termed a "delusion and a snare."

It was resorted to only after a faithful though unsuccessful trial by intermittent intra-uterine injections, which depressed the temperature for a time only, and not permanently. Some of those who have condemned constant irrigation of the puerperal uterus, leave us in doubt whether this opinion is based upon personal experience. I feel firmly convinced that my patients' lives were saved by this treatment and would have been lost by the more conservative plan of occasional douches, for in each case the irrigation was tried only as a last resort, and after intra-uterine injections had failed to accomplish the object sought.

My cases were as follows:

Mrs. M—, aged thirty-six, in the middle walks of life, living under fairly good surroundings, the mother of three children, the oldest being fourteen, was delivered of a healthy girl after a moderately severe labor. The uterus contracted well, though there was considerable after-pain. Thirty-six hours subsequent to delivery she had a severe chill, suppression of the lochia, headache, vomiting, and pain. Temperature, 102° F.; which gradually rose to 106° F., on the third day; pulse, 120. The lower abdomen became tympanitic and extremely tender to the touch, even the weight of the bed-clothes causing severe pain. An examination showed no laceration of the cervix or abrasions of the vagina. Feeling sure that this complexus of symptoms was due to the decomposition of placental débris a Sims speculum was introduced, and with a curette a bit of disintegrated placental tissue the size of a filbert was removed. Intra-uterine injections of a bichloride solution 1 to 3000 were employed every three

hours; the pain relieved mainly by hot flaxseed poultices applied over the abdomen. Concentrated food and stimulants were given freely. Later along all the symptoms increased in severity; the temperature rose to 106°, the pulse to 140 and was weak and thready; a mild delirium supervened, her face wore a pinched expression, and the whole body was bathed in a profuse perspiration. At this juncture, when her life was well-nigh despaired of, constant irrigation of the uterus was decided upon. A double-current catheter was attached to a fountain syringe having a stop-cock, which regulated the flow of the liquid. Her hips were elevated and placed on a partially inflated rubber pillow. A rubber cloth was now drawn under her, and through the cloth and the mattress of the bed a hole was made to permit the return fluid from the uterus to be conveyed by a rubber tube to a vessel under the bed. The fountain syringe could be raised or lowered on the wall, and by this means the force of the stream entering the uterus regulated. The finger introduced up to the ring of Bandl served as a guide to the catheter, which was passed well up to the fundus. The fluid used was a bichloride solution, 1 to 5000, at a temperature of 100° F. The syringe was elevated, the stop-cock turned slightly at first, and the interior of the womb irrigated. The operation was watched narrowly, though no untoward complication arose. In twelve hours the patient's temperature was depressed to 103°, and twenty-four hours later to 101°, above which point it never subsequently rose. She made a good recovery.

A primipara, aged twenty-two, in comfortable circumstances, was seized on the third day after a severe instrumental labor with a chill, and three hours after her temperature registered 104°, pulse, 135. The disease pursued much the same course as in the preceding case, though scarcely so severe, hence it will be unnecessary to repeat the symptoms. Internal medication was the same as that employed in the first case. This patient's temperature was depressed by intra-uterine injections to the extent of 2°, 2½°, and once as much as 3° F., but invariably rose to the original fever point in the course of one hour after the injection. The failure to keep her temperature permanently within bounds induced me to

again resort to constant irrigation, which was continued for sixty hours, when the thermometer registered 101°. She made a good recovery.

Another was a multipara, under bad hygienic surroundings. I was called to attend her for a threatened miscarriage at the sixth month. She could assign no cause for this; had received no fall or strain, and stoutly denied all criminality. She said she had felt no "life" for some time. This, together with the fact that she experienced chilliness, languor, a bad taste in the mouth, and a weight as from a foreign body, suggested that the child was dead—an opinion that was strengthened when after a careful auscultation no fetal heart-sounds could be heard, and through the open cervix the frontal bones were found loose and movable within the integument. Ergot was given, which produced strong, though not sufficiently powerful pains to enable the uterus to empty itself, and the fetus had to be extracted by the hand twenty-four hours later, and was found dead and decomposed. The discharge from the uterus were extremely offensive, having a carrion-like odor. Her temperature, which was 102° before delivery, after it rose rapidly, and a maximum of 106° was touched in twenty-four hours. Intra-uterine injections of warm boiled water were employed every three hours, and in addition, three injections a day were made to the interior of the organ, of corrosive, 1 to 3000. Her temperature was always temporarily depressed by each injection, but again rose to the original point in an hour after each operation. The patient soon passed into a state of imminent peril, with high fever (106°), mild delirium, and a feeble and rapid pulse, denoting heart-failure. Constant irrigation was again resorted to, and though the fever defervescence was not marked for the first six hours, subsequently the decline in temperature was slow, but progressive, until 102° was touched, when the patient's appearance denoted a marked improvement. She made a slow but comparatively good recovery with some sub-involution of the uterus.

Some years ago Dr. Dunn reported a case of death occurring during irrigation. The patient, after a normal labor, had a chill on the second day, a rise in temperature to 104°,

and the usual symptoms of septicæmia. On the third morning, when the irrigation was progressing, the patient remarked, "I hear such strange noises in my head," and immediately expired. How he performed the irrigation was not stated. He thought death occurred as the result of an embolus, or else to the solution entering an open sinus. In my own cases at no time did symptoms arise denoting mercurial poisoning. The dangers from irrigating the puerperal uterus are stated to be rigors, shock, entrance of air into the open uterine sinuses, or of the liquid into the peritoneal cavity, dislodgment of a blood clot, etc.; but in my cases none of these complications were observed.

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**A. R. Goffe, M. D.:**

Speaking from my own experience, although, like most of us, I have had more or less experience with all the operations that have been suggested for *the relief of displacements*, I have not found one that has given me such universal satisfaction as shortening of the round ligaments through the vaginal incision. I have already reported 130 cases that I have submitted to this procedure during the past six years. This number has increased to nearly 150 at the present time. So far as my knowledge goes, I know of but three failures in this series of cases, and these were due to some departure from the regular procedure in which a modification was attempted. Among the 130 cases, 10 are known to have become pregnant and 8 have gone full term, pregnancy proceeding most comfortably and satisfactorily, and the uterus retaining its proper position thereafter. Of the miscarriages one was in a syphilitic negress, and in the other the cause could not be learned.

In my experience the most frequent cause of retro-displacement of the uterus is suppurative disease of the appendages, involving from 75 to 80 per cent. of all cases coming under my observation requiring surgical interference for this affection.

The Alexander operation, pure and simple, is applicable, therefore, to an extremely limited number of cases; it becomes necessary therefore, in order to treat the remaining cases sat-

isfactorily and effectively, to open into the peritoneal cavity, and the question is, Shall it be done through the abdomen or shall it be done per vaginam? The advantages of the vaginal operation are that the healing process goes on unconsciously to the patient, without any more constitutional or local disturbance than that which attends a simple trachelorhaphy. The patient is not mindful of having had an incision made, nor does she bear upon her person any trace of a surgical operation. There are no adhesive plasters to be applied, no stitches to be removed, no bandage or supporter to be worn; there is no ugly scar, and there is no danger of a future hernia.

With these considerations in mind, the idea suggests itself that this procedure has its most appropriate application in cases of congenital or acquired retro-displacement in unmarried women. Among my cases I have six of congenital retroversion or flexion in unmarried women, whose ages ranged from nineteen to twenty-seven years. In these cases, although the vagina was small and the hymen intact in all of them, I was able to perform this operation, and effected a cure in all.

The condition in cases of congenital displacement is rather peculiar. In them the uterovesical ligament is shortened, the uterosacral ligaments are lengthened, and the cervix is drawn forward into the axis of the vagina. The anterior vaginal wall, too, is attached low down on the anterior lip of the cervix, thus drawing down the short arm of the lever and throwing the long arm or fundus back into the hollow of the sacrum. The operation through the anterior fornix necessarily severs the uterovesical ligament at its attachment to the cervix and sets the latter free so that it swings back into the hollow of the sacrum and allows the fundus to come to the front. In these cases in closing the vaginal incision after the round ligaments have been shortened, the attachment of the anterior vaginal wall is carried up on the anterior face of the uterus. This brings the pull of the uterovesical ligaments on the long arm of the lever, or the fundus. The application of this principle has been made use of by Dr. Reynolds of Boston, most satisfactorily in the treatment of these cases. Congenital cases of retro-displacement are notoriously difficult to

cure, but with these combined procedures my results have been uniformly successful, all the cases now being under observation, two of them for four years, one for three and a half years, one for three years, one for one and a half years and one for one year. These women bear no mark upon their persons of having been submitted to an operation.

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## *Book Reviews.*

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**THE AMERICAN YEAR BOOK OF SURGERY FOR 1903.** Octavo, 670 pages, fully illustrated. Philadelphia, New York, and London: W. B. Saunders & Co. Per volume, cloth \$3, half morocco, \$3.75.

This volume, now an annually expected and valued friend, is a digest of scientific progress and authoritative opinions in all branches of surgery, drawn from text-books, journals, and monographs of the leading American and foreign authors and investigators. It is arranged with critical comments by eminent American specialists under the editorial guidance of Dr. Geo. M. Gould. Every new theory, operation, or modification worthy of consideration has found a place in this work, and in a form for easy and ready reference. It can be truly said that it takes the place of that very troublesome and unsatisfactory process of filing medical clippings of surgical advance. We strongly recommend this volume as the best of its kind on the market.

**OBSTETRICS.** A Text-book for the Use of Students and Practitioners. By J. WHITRIDGE WILLIAMS, Professor of Obstetrics, Johns Hopkins University, etc. With 8 colored plates and 630 illustrations in the text. New York and London: D. Appleton & Co., 1903.

The author, in the hope of making this work especially valuable to students, has succeeded in presenting a most elaborate exposition of the normal and pathological anatomy of the generative tract. In this there is certainly a broad basis for the scientific application of the obstetric art which follows. This plan will be received with great favor, for the matter is

presented in a very lucid manner which interests rather than becoming tedious as is the case in many works in which the anatomy and pathology are merely compilations. The same individuality is noted throughout, careful, comprehensive, and interesting. The illustrations are many and varied, and above all they are mostly new, which is a very gratifying feature, for certainly a new work should have every charm of novelty. Among the chapters which will be read with especial interest and in which are to be found much new thought are those relating to eclampsia, extra-uterine pregnancy, and puerperal infection. At the end of each chapter are such references to early history and recent advances on the subject as to enable the reader to refer to the original sources. It is highly probable that this work will be especially recommended for use in the medical colleges of this country.

**THERAPEUTICS OF INFANCY AND CHILDHOOD.** By A. JACOBI, M. D., LL.D.  
Third edition. Philadelphia and London. J. B. Lippincott Co., 1903.

A contribution to the subject of pedology by the man who in 1860 organized the first systematic course of clinical instruction in diseases of children and who has been a recognized authority in this country since, is entitled to very careful consideration. The author brings a wealth of keen observation and experience to bear upon the subject and takes issue with many accepted theories, particularly those applying to infant feeding. He says "no unanimity of opinion will ever be reached so long as infants insist upon being individuals." In the matter of diagnosis, clinical observations, and particularly the indications for the use of drugs the work is of very great value. In most works on the practice of medicine in these days of germs and microscopic pathology, the use of drugs, judged from the small amount of space allotted to therapeutics, is either a lost art in medicine or a relic of the olden time. We are of the opinion that a proper knowledge of therapeutics is becoming a rare and seldom found accomplishment. It is often considered an indication of advanced medical science to pretend to know little of drugs and to express considerable doubt as to their necessity or efficacy in the presence of diseased conditions, but a

careful study of the work under discussion will show much sifting of the real from the supposed. The indications for the use of remedies are very clear and based largely on the author's wide experience. In some instances, for example, the chapter on appendicitis can hardly be said to represent the present attitude of the surgeons who operate as soon as the diagnosis is established. That is largely a matter of opinion and does not detract from the other valuable material presented.

SYPHILIS. A Symposium. E. B. Treat & Co., New York, 1902.

This brochure presents an array of seventeen communications concerning syphilis from writers more or less prominent as having contributed to syphilography. Many doubtful points are discussed and many valuable suggestions as to treatment and diagnosis are given. It is a handy little volume and worthy of careful perusal.

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#### ANNOUNCEMENT.

The English Post Graduate Course of Instruction in Official Surgery, by E. H. Pratt, M. D., will be held in the amphitheater of the Chicago Homeopathic Medical College, corner Wood and York Streets, Chicago, Illinois, during the week beginning May 4, 1903, having a four hours' daily session.

Doctors invited to bring obstinate cases of every variety of chronic disease.

For particulars, address E. H. Pratt, M. D., 100 State Street, Suite 1203, Chicago, Ill.

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## *Translations.*

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### RUPTURE OF THE UTERUS IN THE EARLY MONTHS OF PREGNANCY.

The following case, which is reported by K. Kober (Münch. med. Woch.) serves well as material for a discussion of some important points in connection with rupture of the uterus in the early months of pregnancy. The patient was twenty-four years of age, and had been delivered of her first child about

a year previously by forceps. She had had severe post-partum hemorrhage and had suffered from symptoms which pointed to disturbance in the heart. She was then found to have mitral stenosis. After the second pregnancy had lasted six weeks, the practitioner who was attending considered that a continuance of the pregnancy would be undesirable, on account of the severe heart symptoms, and therefore dilated the mouth of the womb and removed the ovum by means of a narrow sharp curette at one sitting. This procedure was followed by profuse hemorrhage during which the patient became almost pulseless. The bleeding could not be arrested until the uterus had been packed. After two days the tampons were removed, but the bleeding commenced again and rendered it necessary to return to plugging. She was then admitted into hospital, and in order to ascertain whether there were any retained portions of the ovum or membranes a cautious curretting was undertaken, under the guidance of the finger. As soon as this was found not to be the case, and as a doughy resistance was clearly made out behind the anteflected uterus, the diagnosis of a perforation of the uterine wall with wounding of a large vessel was considered highly probable.

A short expectant treatment was tried, but as the patient's general condition was becoming desperate, Kober proceeded to adopt operative treatment. Under anaesthesia it was found that there was a perforation in the posterior wall of the uterus, which easily admitted of the passage of a finger, and which corresponded to the level of the internal os. The finger passed into a cavity which was recognized as retro-uterine hematocoele. The edges of the perforation were very friable, and it was found practically impossible to suture it up; and the fact that the hematocoele contained offensive blood decided him to remove the uterus. He was able to preserve both ovaries, which proved to be normal.

The convalescence passed off satisfactorily. In the first place, was the practitioner justified in attempting to clear out the contents of the uterus at one sitting, without waiting for pains to occur? Kober emphatically says that he was not. Next was the perforation avoidable?

The removed uterus showed two perforations—one corresponding to the level of the internal os, which was more of the nature of a tear, and which had been produced by the forcible dilatation; and the second in the posterior wall of the fundus, which had been produced by the curette. That there was no need of any forcible dilatation is quite clear, and it would have been quite safe to have used laminaria tents under the circumstances; had there, however, been any reason for rapid dilatation, he thinks that it would have been better to have made clean incisions in the cervix.

Next, should one use a curette in emptying the uterus? In the case under discussion it was a fatal mistake to use a narrow and sharp instrument, since the walls of the uterus in the early months of pregnancy are notoriously very friable and easily damaged. The finger is not so readily rendered aseptic as an instrument, and for this reason Kober prefers to use a broad and blunt curette. But he especially emphasizes that the uterus must never be emptied until the pains have set in.

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### VESICAL CALCULUS IN WOMEN.

Mirabeau (Centralb. f. Gynäk.) reports eight cases of vesical calculus in women. Stone in the bladder is much more frequent in the female, and more readily diagnosed than was the case not many years ago, partly because gynecological operations are so freely performed in these days, so that sutures not rarely make their way into the bladder, and partly owing to the use of the cystoscope. In none of his cases were the symptoms highly characteristic; in only two did the history alone lead to the suspicion of calculus. Pains, nearly always present, were such as are common in diseases of the genital tract, but frequent desire to make water, turbid or bloody urine, and colicky hypogastric pains are frequent. The cystoscope was used in every case. In one instance the calculus was at first overlooked, and, indeed, was not detected until the instrument had been used repeatedly, as it lay in a diverticulum. Yet it was as big as a hazelnut.

In a second case a large calculus lay across the neck of the bladder, which was firmly contracted on it; this stone was at first mistaken for a tumor. In the remaining cases the calculi were speedily detected through the cystoscope. They were removed by three methods. Some were extracted through the urethra, by aid of the cystoscope. This method was most suited for small concretions under the size of a hazelnut, for stones in diverticula, and for phosphatic masses around silk ligatures, which often hang from the vesical walls. Lithotripsy is suited for large, soft, phosphatic calculi; the cystoscope is a good guide in such cases. For big, hard, uric acid calculi, with acid urine, and no infection of the bladder, colposcystotomy is indicated. This operation is excellent. A median incision is made in the anterior vaginal wall, then the vesical wall is laid free as much as possible, and a vertical incision cut through it. After removal of the stone Mirabeau closes the wound in the vesical walls transversely, to avoid tension; care is taken when the wound is made not to wound either the uterus or the sphincter vesicæ. Lastly, the vaginal incision

is closed. Lithotripsy is not a satisfactory or easy operation, owing to the irregular shape and laxity of the female bladder. Mirabeau considers that the superapubic lithotomy is unnecessary in women, and that dilatation of the urethra beyond the caliber of the finger is dangerous, as liable to cause permanent incontinence of the urine.

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#### PRIMARY (?) PERITONITIS IN PREGNANCY TAKEN FOR INTESTINAL OBSTRUCTION

Porak and Katz (*d'Obstet. de Gynéc et de Pédiat. de Paris*) report a case where acute peritonitis set in during the eighth month of pregnancy, without any association with rupture of the uterus or other consequence of gestation or disease of the genito-urinary tract, or with any constitutional malady besides chronic nephritis. The patient was thirty-seven years old, and had been married and childless for fifteen years. When seventeen she had a very acute attack of nephritis, and, ever since, occasional lumbar pains with albuminuria and scanty secretion of urine were noted. The first pregnancy began at the end of April, 1901, and proceeded normally till during the first week in January, when abdominal pain set in, followed by tympanitic distention, whilst neither feces nor flatus passed. There was no indication of umbilical, inguinal, or femoral hernia, but the abdomen was not so tender to touch as in an ordinary attack of acute peritonitis, whilst the vaginal fornices were free. Internal obstruction was suspected.

An exploratory incision was made, and a little turbid fluid escaped; the great and small intestine were found to be distended and vascular. The uterus completely prevented a satisfactory exploration of the intestinal tract, so Cæsarean section was performed, and a male child weighing over 7 1-4 lb. was delivered; he was allowed to wet nurse, and was alive and well two months after his birth. The placenta lay anteriorly, and was divided when the incision into the uterus was made. That incision was closed by suture after the detachment of the placenta. The uterus contracted well and then the other viscera could be explored, but no trace of occlusion could be detected. The intestine, after careful search, was reduced and the abdominal wound closed. The patient grew worse and died on the second day. Pseudo-ileus had again occurred, there was no mechanical obstruction, the peritoneum contained a little bloody fluid in front of the uterus, but no purulent foci were discovered. The uterus bore two fibroids, one, 3 1-2 in. in diameter, lay in the fundus, the other, which was smaller, lay lower down. The appendages apparently were free

from disease. The kidneys were very large, pale, and full of emboli; they showed signs of recent infectious nephritis. The veriform appendix, bile ducts, and other viscera and ducts were free from any morbid condition. Thus the cause of the peritonitis remains unknown. Perhaps the uterus pressed on the intestine, causing obstruction and bacillus coli or toxin infection of the peritoneum. Porak records a case of Morestin's where strangulation during pregnancy was caused by a coil of gut falling through a hole in the mesentery; recovery followed operation. In a second case fatal intussusception occurred, nine inches of sloughy small intestine were being disengaged by the operator when the patient died on the table. Lastly, Porak publishes notes of a curious case of distention during the puerperium simulating mechanical obstruction rather than pseudo-ileus. After repeated enemata the patient passed motions and recovered.

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#### SUGAR AS AN OXYTOXIC.

Keim and Lehmann (*L'Obstétrique*) observe that on evidence of the activity of sugar in relation to muscular activity, shown by experiment, it has been believed sugar influences uterine contractions. They make out, however, that practically sugar only acts on uterine muscles after the contractions of labor have set in, and has no influence on the expulsion of the afterbirth and on uterine retraction. They declare as an interesting and instructive fact that amongst professional consumers of sugar, such as women who work in refineries, labor is very short, and muscular force is maintained during the whole labor; indeed, the sugar acts on the muscular system of the entire body. In short, sugar is not only an oxytoxic, but also a tonic influencing muscular energy.

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#### OVUM ON SEVENTH DAY OF PREGNANCY.

Fränkel (*Centralbl. f. Gynäk.*) demonstrated at the February meeting of the Munich Obstetrical Society a true ovum expelled on the seventh day after an overdue period. The patient was subject to habitual abortion. The decidua was expelled in one piece as a precise cast of the uterine cavity. On its lower part, not far from where the os internum would have lain before its attachment, was a conspicuous thickening, from the inner surface of which projected a transparent bulla of the size of a pin's head, clearly representing the ovum. A careful microscopical examination of the specimen is to be undertaken.

## CHRONIC INVERSION OF UTERUS.

Nijhoff (*Monats. f. Geb. u. Gyn.*) detected inversion of the uterus in a woman, aged sixty-four. She complained that the organ came down now and then, yet in other respects she did not seem to suffer. When thirty years old she was delivered of her first child, inversion occurred, and her doctor reduced the displacement. After a time she became pregnant again and aborted. From thenceforward till she was fifty hemorrhages occurred. Nijhoff found that the uterus was very movable, and prolapse was developing; he therefore thought it best to remove the displaced organ. He doubted about the alleged abortion, suspecting that the inversion had never been completely reduced, so that it returned, and the bleeding occasioned by its return was taken for an abortion.

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## FALSE ALARM OF UTERINE MALIGNANCY.

Heugge (*Monats. f. Geb. und Gyn.*) has observed two cases where blood and discharge came away from the uterus of women over forty. On these cases he finds a short essay on innocent growths consisting of several layers of the uterine epithelium. The epithelial cells may be found in three or four layers, not only on the surface of the endometrium, but likewise in the uterine glands. Such a condition must not be held as essentially malignant. The first patient was a woman, aged forty-four, who had borne six children, the youngest being four years old. Menorrhagia had set in, and at length, after considerable irregularity in the period flooding took place and continued for fourteen days. The curette was used on January 31, 1899, and the epithelium thus removed was multilaminated. The uterus was scraped once more in February, 1900. According to a report in December, 1901, the period had ceased entirely since February, 1901, and there was no evidence of any growth. The second patient was forty-nine, and had not been pregnant for seventeen years. In January and February, 1900, there was much uterine hemorrhage, and there had been fetid discharge three years previously. On account of continued attacks of bleeding the curette was applied on August 1. The pathological condition in question was detected on microscopical examination. A year later the curette was used once more as a test and precaution, but no trace of multilamination could be found in the scrapings. There was no physical evidence of any pelvic tumor.

## MALIGNANT DISEASE OF ROUND LIGAMENT.

Friggesi (Centralb. f. Gynäk.) was consulted by a single woman, aged forty-three, with ascites and all appearances of a malignant abdominal tumor. The period had ceased for six years. She had been troubled for over two years with pain in the left of the hypogastric region, and for six months the abdomen had increased rapidly in size. The fluid had twice been removed by paracentesis, and after the second tapping the left leg had become swollen. Dyspnea with cachexia set in. Friggesi detected a fixed, hard, solid mass as big as a fetal head above the right groin. It appeared that the edema of the opposite leg was due to the patient's position in bed for three weeks; the left labium was much swollen. The relations of the tumor to the uterus could not be defined, owing to the ascites. At the operation about sixteen pints of ascitic fluid escaped. The tumor was connected with the right cornu of the uterus by a short cord, clearly the round ligament which was lost on the capsule of the growth. Otherwise the uterus was free from any tumor. The whole convex outer aspect of the tumor was adherent, very intimately, with the parietes, so that the internal ring could not be defined. The uterine end of the broad ligament was transfixed, tied, and divided, the outer part of the tumor separated by the knife from the parietes, which were afterwards touched with Paquelin's cautery. The patient recovered, the edema of the left labium and lower extremity subsided. The tumor was a fibro-sarcoma.

## PRIMARY CANCER OF FALLOPIAN TUBE.

Stolz (Arch. f. Gynäk.) reports a new case, which makes the forty-fourth genuine example of primary cancer of the Fallopian tube recorded in medical literature up to the middle of 1901. He adds a table, or rather a series of short clinical notes, of twenty-seven cases reported since Sänger and Barth's statistics were published. This list does not include Le Count's and Hardon's. Stolz's own patient was forty-five and had borne five children. For some time she had been subject to bearing-down pains; for nine months no discharge or bleeding had been observed. Stolz wisely removed the whole uterus and opposite appendages with the cancerous tube and its ovary. He likewise cleared the glands and connective tissue of the pelvis on Freund and Howard Kelly's principle. The right tube was converted into a tumor of the size of a fetal head. Before the operation it lay in Douglas' pouch, and the right

fornix pushing the uterus upwards and forwards. It contained medullary material, and on microscopic examination proved to be an alveolar papillary cancer. There was secondary adeno-carcinoma of the ovary. The left appendages were normal. The microscopical appearances are figured, with a drawing of the parts removed. The operation was performed on July 8, 1901. The patient was in good health four months after the operation, but there is no later report. Some of the pelvic glands removed were cancerous.

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#### RUPTURE OF THE UTERUS FOLLOWED BY ABDOMINAL PREGNANCY.

Doktor (Centralbl. f. Gynäk.) reports that a woman, aged twenty-eight, fell from a height when six months pregnant, and struck her abdomen. Pain ensued, with bleeding which lasted for three weeks, when the patient was able to return to her duties, though the pain did not cease entirely. A solid, freely movable tumor of the size of a child's head developed in the right half of the hypogastrium, immediately under the parietes. The uterus could not be clearly defined. Extra-uterine pregnancy was diagnosed. On abdominal section a solid but shrunken ovum was exposed, it adhered to the parietes, uterus, right broad ligament, and omentum. The uterine attachment was found to be more than adhesion, placental tissue ran from the ovum into a canal as wide as the stem of a quill pen, which traversed the uterine wall near the fundus, and represented the seat of rupture. The uterus was removed entire. The patient made a good recovery.

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#### PRIMARY CANCER OF FALLOPIAN TUBE.

Graefe (Centralbl. f. Gynäk.) adds one more to the 52 authentic cases of primary cancer of the tube recently collected by Zangemeister. Graefe's patient was a sterile woman aged fifty-one, married twenty-two years, and apparently hitherto free from any pelvic inflammatory disease. The period, regular till nearly one year before observation, became very profuse, and seemed to reappear after a week's interval. There was in September, 1899, marked retroflexion, and a tense, sausage-shaped tumor lay in Douglas's pouch. The patient declined any operation; in February, 1902, she returned to Graefe, who detected a spherical tumor of the size of a fetal head, freely movable, to the right of the tumor in Douglas's

pouch, which had not altered in size. He operated, removing a cyst of the right ovary which had burrowed deeply into the right broad ligament, and a cystic right tube, a hydro-salpinx shaped like a tobacco pipe. He opened the hydro-salpinx, and found a papillary tumor of the size of a chestnut growing from its inner wall in its ampullary portion. This proved to be a malignant growth; the epithelium of the villous masses was arranged in several layers, and some of it had invaded the deeper tissues in the tubal wall. The patient was free from recurrence eight months after the operation. The history clearly showed that a papilloma of the tube had developed and become malignant. As the mass was small, it could not have been malignant when the hydro-salpinx was diagnosed in 1899.

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#### OPERATION IN LATE EXTRAUTERINE PREGNANCY.

Neugebauer (*Monats. f. Geb. u. Gyn.*) states that during the twenty years that he has operated in cases of diseases of women he has had to do with six cases of late extrauterine pregnancy. In the most recent he operated at the end of the eighth month by abdominal section, removing a macerated fetus and a macerated placenta which did not bleed. The sac was treated like an abscess cavity, and recovery occurred. In three other cases Neugebauer successfully operated; in the fifth where he diagnosed the condition another surgeon operated; in the sixth, still under observation, the patient has gone about for a year and a-half bearing a dead fetus, but declines any operation as she feels quite well. This case is specially remarkable as the period had remained regular throughout, and, besides, there had never been pain throughout the history of the case. By late pregnancy he means gestation near (not at or after) term.

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#### LIPOMA OF OMENTUM AND MESENTERY.

Péraire (*Bull. et Mem. de la Soc. Anat. de Paris*) publishes a full report of an abdominal tumor which resembled in some respects the arborescent lipomas of the knee, though of enormous bulk; it was a retroperitoneal lipoma of the "polypous" type according to Virchow. The patient was a woman, fifty-two years of age. For three years an abdominal tumor had been noted, and it had recently assumed very large proportions. The girth of the abdomen at the umbilical lever was

41 inches, the length from the ensiform cartilage to the umbilicus 10 inches, from the umbilicus to the pubes  $8\frac{1}{2}$  inches. There were severe pressure symptoms as seen in cases of large ovarian cysts. The pelvis was free and there was resonance for about 5 inches below the ensiform cartilage. Firm masses could be felt below this level, especially in the right iliac fossa. The urine contained 1.5 gram of sugar to the litre. At the operation it was found that the abdomen was filled with a soft mass occupying the great omentum and continued on to the mesentery. The peritoneal cavity contained ascitic fluid with much oil in globules, it made the operator's hands greasy, so that the application of the ligatures proved difficult. Several pedicles had to be made in order to get away the mass, which weighed nearly 16 pounds, and was made up of exceedingly fine lobules of fat. It was mostly encapsulated between the layers of the great omentum, which formed its capsule, but part of it sprang freely from the surface of the mesentery as friable masses of fatty papillae. The patient recovered.

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#### OVARIAN PREGNANCY.

Simon (Centralbl. f. Gynäk.) writes of a woman, aged forty-three, with a tumor resembling a dermoid on palpation. The operation proved unexpectedly difficult on account of firm adhesions. The Fallopian tube was practically normal and in normal relation to the tumor which had developed from the ovary. As the escape of dermoid matter into the peritoneal cavity involves danger, the tumor was extracted entire. It was carefully opened after the operation and was found to contain, not dermoid material but an ovum of the fourth month. As the tube was intact Simon concludes that the extrauterine pregnancy was "purely" ovarian; he does not use the word "primary" in his report.

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#### MALIGNANT UTERINE POLYPUS.

Opitz (Centralbl. f. Gynäk.) reports two cases in elderly women. The first patient was fifty-seven, suffering from free discharge and hemorrhage. The curette brought away both carcinomatous and sarcomatous elements. The uterus was removed; an adeno-carcinomatous mass was found in the fundus, and close to it was the attachment of a polypoid tumor of the size of a walnut. The substance showed the characters of a spindle-celled sarcoma, but endothelial ele-

ments and cancerous glands lay in its substance. The second patient was fifty-eight; the uterus was removed on account of evidence of malignancy, as in the first case; and besides, a polypus as big as a hen's egg protruded through the os into the vagina. Two-thirds of the polypus consisted of epithelial cancer, but the rest included true uterine glands. The pedicle, very long, was attached close to the orifice of the left tube.

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#### CONCERNING THE TREATMENT OF PUPERAL INFECTIONS BY UTERINE CURETTEMENT.

P. Taruffi (*La Clinica Ostetrica*) remarks that so long as "old wives" are permitted to take part in midwifery practice, for just so long will puerperal infection be with us. With the use of proper aseptic precautions the malady would entirely disappear, but at present there is no sign of this being the case. The author gives the details of several cases in which septicæmia was well marked, all of which were treated by scraping of the interior of the uterus. The surgical treatment was, of course, accompanied by the use of antiseptic injections, such as 2 per cent. carbolic acid,  $\frac{1}{2}$  per cent. permanganate of potash, 2 per cent. tincture of iodine. The author also praises the influence exerted by 2 per cent. solutions of salicylic acid. Most of the cases described were extremely serious, and would certainly not have yielded to simple uterine irrigation. This mode of dealing with puerperal septicæmia seems to be extremely rational, and the author's results are most encouraging.

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#### NECROSIS OF UTERINE FIBROID AFTER PREGNANCY.

Stouffs (*Bull. de la Soc. Belge de Gynéc. et d'Obstet.*) reports the case where a woman, aged thirty, consulted him about a painful hypogastric tumor. Three months previously she had been delivered, and then the tumor was detected. Stouffs found that the uterus was bulky, and a round, somewhat movable tumor of the size of a goose's egg lay on its surface. He operated; the tumor was attached to the uterus by a broad pedicle, and was enucleated with ease. No other fibroid growth could be found. The tumor was soft and elastic, exsanguined and necrotic; but septic changes had not set in. The retraction of the uterus during involution caused the obliteration of the vessels which supplied the tumor.

## NECROSIS AND SPONTANEOUS ELIMINATION OF A LARGE UTERINE FIBROID.

Schmauch (Centralbl. f. Gynäk.) reports a case of some interest in relation to the recent discussion on absorption of fibroids. A woman, aged forty-three, came under his care for a tumor which reached as high as the umbilicus. She had not been pregnant for nineteen years. The period had been regular and free; for four years it was associated with severe hypogastric pain and the discharge of fragments of tissues. Recently she was troubled with free watery discharge. There was great pallor, but the blood was not much below its normal standard. The uterus was converted into a hard, tuberculated, freely movable tumor. From the vagina issued a dirty-colored, faint-smelling, though not fetid, watery discharge, containing fibrous shreds. The os was completely dilated, and a mass soft to the touch, not unlike a flaccid amnion, presented. Fragments of fiber hung down in the uterine wall; the seat of attachment could not be defined owing to the size of the uterus.

The fibrous masses were found to be fragments of a myoma in a state of necrobiosis, as in intrauterine maceration of a dead fetus. In three days nearly 1 pound of tissue was removed by daily application of the volsella without the least hemorrhage. Sublimate injections were thrown up, but they caused painful uterine contractions, and were discontinued. After a few days there was a rise of temperature to 102°, but it fell rapidly. No bleeding occurred. Ergot was given, with lysol douches; at the end of a month the uterus was reduced to the size natural at the tenth week of pregnancy. The uterine cavity measured  $3\frac{3}{4}$  in.; the tip of the finger could not be passed into the os externum, and the cervix had assumed its normal shape. Fragments of tissue kept coming away spontaneously and during the douching. Schmauch notes that discharge of sloughing fibroid tumors is common, but spontaneous discharge of uninfected myoma tissue is very rare.

He quotes several cases: first, Doran's, recently criticized by Murdoch Cameron; then Poloff's, where the patient was a nun, and all local treatment forbidden, the tumor gradually came away in fragments. Lastly, he refers to Bäcker's case, where a patient suffered from bleeding interstitial fibroid. Electricity was tried, the bleeding cased, then big and little masses came away, till the tumor was reduced to half its size before treatment. The thrombosing properties of electricity had brought about this result; the same had been noted

in other cases. In this instance the patient was not kept in bed during treatment, and there was no rise of temperature. Schmauch dwells on necrobiosis of fibroids as distinguished from sloughing, which involves septic infection. It is caused by the tumor growing too large for its blood supply, which is often limited to two or three small vessels running from the capsule into the growth. The process begins in the deepest part of the tumor; it is a kind of liquefaction, and the fluid which infiltrates the fibres gradually breaks them down. This fluid infiltration is, perhaps wrongly, reckoned as oedema by many observers. Schmauch concludes that it is by a process of this kind that uterine fibroids slowly disappear about the menopause, so that, according to his views, true absorption of fibroids and necrobiotic changes in fibroids are parts of the same process, the latter being a later stage of the former.

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#### UTERINE FIBROIDS NOT DANGEROUS IN PREGNANCY.

Méheut (L'Obstét.) has collected 85 cases of pregnancy complicated with uterine fibromyoma in the Baudelocque clinic between 1895 and 1902. In 67 cases pregnancy continued to term (over 78 per cent.), in 13 it was premature, in 3 abortion occurred, and in 2 the pregnancy was interrupted by operations. In only 2 cases was the fibroid the direct cause of the patient's death. Thus, though a pregnancy complicated by fibroid requires to be well watched, serious accidents are the exception. When the patient's life is threatened operative interference is necessary at once. In all cases the aim is to let the pregnancy advance as near to term as appears safe. Méheut, however, reports that out of the 85 children, 65 left the clinic alive, while 20 (over 23 per cent.) were lost.

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#### NEGATIVE EFFECTS OF EVAPORIZATION OF UTERUS.

Zulauf (Monats. f. Geb. u. Gyn.) recently exhibited before the Obstetrical Society of Leipzig a uterus removed ten days after vaporization. The patient had uncontrollable bleeding, but its cause is not stated in the report. Four days after the application of steam the hemorrhage recurred. At length the uterus was extirpated. The action of the steam on the endometrium was found to be very irregular. At certain points the superficial epithelium was completely intact, whilst all the uterine glands remained perfect.

# THE HOMEOPATHIC JOURNAL OF OBSTETRICS, Gynecology and Pediatrics.

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## GONORRHEA IN WOMEN.\*

BY M. BELLE BROWN, M. D.

At the meeting of the Institute in Buffalo in 1897, the first paper that had ever been presented to that body on this subject was contributed by the writer of this paper. Since then, I am sorry to say, I have met many cases, both mild and severe, and have nothing very new to offer either in way of treatment or prevention. The latter, I think, should occupy our attention even more carefully than as to how we can best handle it after it has once been established.

We have been talking and writing long articles for years on how to preserve the health of our girls and women. We have written about proper dress, overstudy, puberty, motherhood and the climacteric, until it seems to me that with an observance of the rules and regulations laid down every woman should reach a calm, serene three-score years and ten without encountering many hard storms. But in spite of all

\* Read before the Massachusetts Surgical and Gynecological Society, December, 1902.

the advice and warning that has been given, gynecology still affords a rich field for the specialist. If you will permit me, I would like to say a few words along the line of prevention, and will quote from my former article. The medical profession of the present day is largely occupied in studying precautionary measures against epidemic and contagious diseases. Every morning the public schools in New York City are visited by a corps of examining physicians, and any child found ailing or unclean is sent home. This is as it should be. If by this oversight of the public school children, and the observance of sanitary laws, we can diminish the number of tubercle bacilli floating in the air, limit or prevent smallpox, arrest the inroads of the Klebs-Loeffler bacillus by anti-toxine, annihilate the germs of typhus and typhoid by germicides, why not go further and prevent the amount of contagion afloat that is ruining not only the physical health of men and women, but is filling our hospitals with incurable victims, increasing mental and nervous disease, inflicting blindness and untold misery upon thousands of innocent children, in fact, attacking the strongholds of our whole domestic life, destroying happiness and home. The great era in the progress of gynecology will date from the establishment of any methods or measures that will minimize pelvic disease. Of course, there will be "female complaints" as long as female children continue to be born; the structure and function of the organs contained in a woman's pelvis renders her liable to many and varied ailments, but it is the prevention of these serious diseases which she often has thrust upon her that we would offer for consideration. Physicians hold largely in their hands the interests of humanity, and to them we must look to help reform the world, especially the morals of young men. Moral reform cannot come from legislation. You cannot pass a law and make it effective without a good moral sentiment behind it. It is to education in the home that we must look for moral reform. Fathers and mothers must first inform themselves, and teach their sons and daughters some of these central facts of life. There should be no barriers between parents and children. Nature contains nothing indelicate in her secrets. Fathers should teach their sons with all the

emphasis of which they are capable to shun all forms of evil. But who is to teach the parents? I answer, the family doctor. Physicians have too long considered gonorrhea as only a slight ailment which is no bar to marriage. Until gonorrhea is cured it is as much a bar to marriage as syphilis, and until it is so considered diseases of women will increase and hospitals for their treatment will multiply.

E. Doughty says on marriage and gleet in his book on Genito-Urinary Diseases: "It is a dangerous thing for a man with a discharge to marry. The line should be drawn here very strongly, and permission given only when shreds have been examined again and again and no gonococci found. The discharge may have become translucent, with no sign of pus, yet pus makes its appearance twenty-four hours after marriage, and the woman be inoculated. And yet marriage is often just the thing the patient needs: it will stop the discharge, but the woman may be sacrificed." In view of these facts, the family doctor consulted by a young man who has a gleet and is contemplating marriage, should certainly acquaint him with the risks he is taking. I do not believe there is a man living, who is of sound mind and has a spark of righteousness in his soul, but what would guard his life and protect his family. Will you show me the man who is indifferent as to whether he has an invalid wife or a blind child? I grant this is in extreme picture, but I have seen all of this. Aside from the possibility of conveying the disease to his wife, no man, if he were possessed of the knowledge of the effect of a gonorrhreal infection would be so foolhardy as to run the risk of bringing upon himself the many and varied ailments that follow in its wake. The invasion of the system by these little biscuit-shaped micro-organisms of gonorrhea means, in many instances, much more than the local pathology. When young men are told that rheumatism, endocarditis, periostitis, arthritis (the gonococcus has been found in joint effusions) and phlebitis are classed as sequelæ of this infection, they will hesitate before exposing themselves to such a list of troubles, any one of which would destroy or cripple their best energies. In the paper presented to the Institute a hint was given that the gonococcus might be a

frequent cause of appendicitis, especially in men. I say men, for the reason that many more men have appendicitis than women, and I know of no anatomical reason for it. Since writing that paper I have read several articles in medical journals wherein it has been stated that in a number of appendectomies the gonococcus had been found and to it was assigned the exciting cause of the appendicular disease. Perhaps even this would not deter some daring, willful, impulsive youth. There always have been fools and there always will be, and the innocent suffer from their errors and indiscretions. It is the general practitioner, as well as the specialist, that should be familiar with the pathology of a woman's pelvic organs who has sustained a severe infectious pelvic inflammation. It was not very long since that I heard a noted surgeon say he would not consent to his daughter's marriage until he was satisfied the young man presented a clean bill of health. His attitude was quite in contrast with that of a general practitioner who gave his consent to a young man who was suffering from an acute gonorrhea to marry, advising him to "get a fountain syringe and some tablets of bichloride of mercury, and there could no harm come to his bride if she would use the douche." This was done, but with what result? In six weeks his beautiful bride, the daughter of wealthy parents, was ill with what they were pleased to call "inflammation of the bowels." Every means was resorted to save her life. She recovered from the attack, but has been an invalid ever since. This case came within my personal knowledge. Young women with tender tissues are more liable to infection, and to the extension of the inflammation to the uterine canal and by continuity of tissue to the tubes, ovaries, and peritoneum. Women who have born children with obliteration or distention of the vaginal folds are not so apt to have the deeper pelvic inflammations. In them the disease will often be limited to the vulva and urethra. The gonococcus first invades the mucous follicles at the orifices of the urethra, vagina or Bartholin's gland. With the inflammation at the mouth of these follicles the streptococcus and staphylococcus frequently find a suitable soil for development and we get a mixed infection. With this double infection we can get sup-

puration anywhere the infection is carried. It may be vulvar abscess, or an abscess in the pelvic cellular tissues, or, if so far reaching as the kidneys through the ureters from a cystitis, we can get a pyonephrosis. Fortunately these severe cases are not frequent, but one never knows where the infection will be carried. It has been my experience that a lying-in woman who has had a gonorrhreal endometritis is more apt to have a puerperal pelvic inflammation than a woman who has not been infected. The contagion is still farther reaching than the mother. It was not more than ten years ago when it was stated that seventy-five per cent. of the blindness in Great Britain was due to gonorrhreal infection. I am glad that in this country we can show a little better record, at least in New York, where only twenty-one per cent. of the blind have become so from ophthalmia neonatorum. I am sure this per cent. will soon be reduced by the enforced care of the eyes of the new-born.

I am not optimistic enough to believe that we will ever eradicate this infectious trouble—as long as men and women live I am inclined to think we will have to deal with it—so we must continue to familiarize ourselves with it, in both its acute and chronic forms; its methods of invasion, its symptoms, its diagnosis and treatment. I have already spoken of the locality of the infection, its point of entrance into the tissues. Its symptoms are redness, heat and swelling of the vulva, orifices of vagina, urethra and of the vulvar glands. If a patient seeks advice for an irritation of the vulva, accompanied by pain on urination, an inspection of the parts should be requested. A urethritis plus a muco-purulent discharge in a young woman would suggest to our minds a specific trouble. If we are prepared to make a microscopic examination of the discharge this should always be done, although we might not in every case find the gonococcus as it may be present in only small numbers. I believe, though, if we are careful and examine specimens from various localities, we will, in an infected case, find the micro-organism. It is most important to make a diagnosis as this is the underlying essential to the intelligent treatment not only of gonorrhea but of all forms of disease. If we have been convinced the case is

one for specific treatment, what will be the best method to pursue to relieve the present symptoms and what will we do to prevent the spreading of the contagion to remote parts? The object of the treatment is to destroy the gonococci, is it not? If the case is not seen early I very much doubt the germicidal effect of any of the solutions in common use. You can use bichloride if you wish (I never use it), electro-zone, hydrozone, anything you prefer, perhaps protagon or argyrol. The claim is made for argyrol that it penetrates the sub-mucous tissue and attacks the micro-organism in its hiding-place beneath the mucous membrane. I have not had experience with it, but am led to believe from the experience of those who have used it that it may be a valuable germicide.

Bacteriologists have claimed that gonococci can only be cultivated in acid media and that it is for this reason they flourish in the urethra and vagina, the less violent attacks not reaching the uterine canal when the secretions are alkaline. In following out a line of treatment in accordance with these investigations I have been satisfied with the alkaline douche of phosphate of soda, followed by one of hydrastis, two drams of the fluid extract to nine quarts of water. Preceding the douche I place within the cervix a plug of lamb's wool wet in the alkaline solution, thus preventing the invasion of the cavity of the uterus. I make no application to the urethra, neither do I irrigate the bladder for fear of carrying infection into it, but I instruct the patient to drink freely of alkaline waters, vichy, etc. Cannabis sativa and hydrastis are usually the two medicines prescribed. All stimulants and highly seasoned foods are forbidden. This line of treatment is kept up for about two weeks, occasionally substituting for the alkaline douche, one of plumbi acetatis 3*ii*, Acid. carbol. 3*i*, Tinct. opii. 3*iv*. Sig. Tablespoonful to quart warm water. This douche will allay the pruritus, if any is present. I have been satisfied with this method of treatment in arresting the progress of the infection. If the uterus and appendages become infected, the treatment is the same as for non-specific inflammation. If we have not arrested the disease in the easily accessible parts, we cannot do much by the use of germicides in the uterine cavity. The uterus is not curetted until

the acute symptoms have subsided, then, if there are uterine discharges and leucorrhœas, the uterine cavity is irrigated thoroughly, first there curetted, cauterized, and packed with sterile gauze, dusted with boracic acid.

The majority of cases will recover with adhesions, according to extent of area involved. The virulent cases will, in weak or scrofulous subjects, and especially if poorly nourished, go on to the formation of abscess either in the pelvic cellular tissue, or in the tube. These cases of course come to the operating table. I do not, however, believe as Lawson Tait did, that every case of pyosalpinx is of gonorrhœal origin. In Wood's Medical and Surgical Monographs, 1889, Dr. William Japp Sinclair, of Scotland, wrote as follows: "Gonorrhœal infection in women gives rise to a group of diseases which, by reason of their clinical interest and social and moral consequences surpass in importance every other class of ailments which claim the attention of the gynecologist. I hope the time is not far distant when we can see a better state of morals in every community and many of the hospitals built for the treatment of women, used for other purposes. If gonorrhœa could be excluded from the list of woman's ailments, we would rapidly reduce the number of these institutions, prevent the blindness of children to a large extent, and diminish the sum of human misery. May we not hope that the medical fraternity of Boston will help us solve the problem?

Dr. Eliza B. Cahill: The paper simply states in effect that gonorrhœa in women is the chief cause of pelvic disease, and may be one cause of appendicitis in men. Dr. Brown feels there is no moral cure for this condition. I think the cure for it is to be found in the cure of all other self-inflicted ills in education. There should be education of the parents and then confidence between father and son, and mother and daughter. Our work is with the fathers and mothers. A man is not going to give a disease to his wife and child, if he knows of the fact of transmission. If one puts his hand in the fire it burns, and we call him insane. No one mentally balanced will willfully injure himself and others. Our boys and girls of eight to ten years of age know more than they ought, and know it imperfectly. There is nothing so essential to well-being as a sound body, and nothing so surely will aid that as the confidence between intelligent parents and children. Let us educate the parents, and they in their turn their children, and bring about a more widespread knowledge among the laity of this terrible disease which is so far-reaching in its dire effect. Physicians alone can do this, and it is our direct and absolute duty to educate on this subject.

## AN INFECTED CYST.

BY FLORENCE N. WARD, M. D.

Mrs. N., age twenty-four, native of Japan, slender and small of stature, nullipara. Puberty seventeen years of age. Menstruation: Irregular, lasting three days, scanty. Had noticed a globular mass in the lower part of the abdomen for two years.

Was called to see her January 13, 1902, and found her ill with acute peritonitis. She was lying upon her back, with the limbs drawn up, suffering great pain through the abdomen. Examination revealed a tympanitic abdomen, exquisitely sensitive to touch, with a globular mass in the lower left quadrant of the abdomen. Temperature 102, pulse 120. The patient was removed to the hospital and placed under observation and treatment. Her condition steadily improved, and the operation for the removal of the tumor was deferred until the acute symptoms of peritonitis had subsided. An abdominal section was performed January 19, 1902, at which time the temperature had fallen to 100.6 and pulse 96.

## OPERATION.

Operation began at 10.07 A. M. Abdominal incision 10.15, tissues very vascular. Entered peritoneal cavity at 10.18. Tumor immediately presented, covered throughout its entire anterior surface with adherent omentum. The omentum was carefully separated and tumor aspirated. One pint of amber-colored fluid poured out, the last part of the fluid being pus-like and contained large flakes of organized lymph. The cyst wall was drawn out of the opening after the contents had been evacuated. The pedicle was ligated with catgut close to the left cornu of uterus and divided by cautery at 10.35. Examination of the right side of the pelvis showed a tubo-ovarian abscess, the tube greatly distended, and the ovary incorporated in the abscess mass. It was carefully freed from adhesions, lifted up, ligated with catgut, and severed with the cautery at 13.43 A. M. The uterus was found retroverted, lying low in the hollow of the sacrum. The fundus was caught by bullet forceps and lifted up to the abdominal wall. It was scarified as

well as the parietal layer of the peritoneum at the lower angle of the wound, and the uterus was suspended with two silk-worm gut sutures. The abdominal wound was closed with through-and-through silkworm gut sutures, the fascia united by a corset suture of silkworm gut and the cutaneous margins

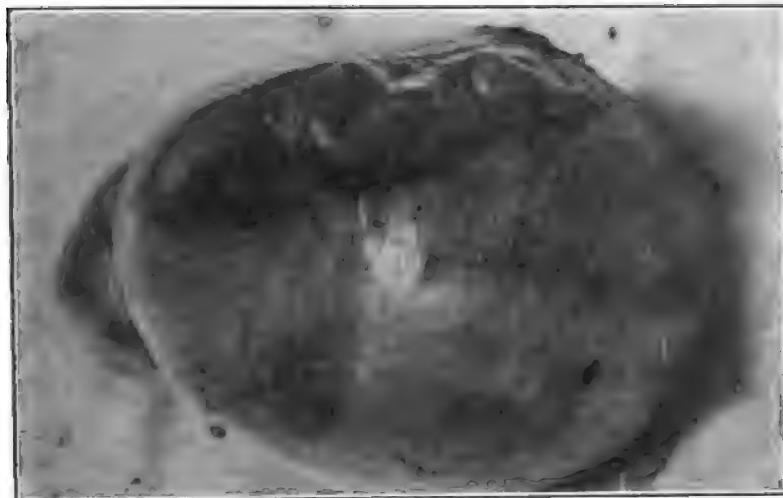


Fig. 1.—Exterior of ovarian cyst, showing distended pus tube coursing over superior portion of cyst.

united by fine catgut. Sterile dressings applied. Operation finished at 10.55 A. M.

The following is the report from the pathologist:

"The contents of the Fallopian tube in the case of the Japanese woman are sterile, the slide showing disintegrated leucocytes. The cyst cavity contains staphylococci, also some diplococci occupying extra-cellular positions. I should regard the case as of probable infection from the gonococcus, but long isolation had caused their death. The presence of germs in the cyst accounts for the sepsis or peritonitis.

(Signed) "FREDERICK G. CANNEY, M. D."

#### MICROSCOPICAL APPEARANCE.

*Outer Surface.*—Cyst wall pearly white, with distended superficial blood-vessels, roughened areas where adhesions had

been separated. Fallopian tube greatly distended, coursing over superior surface of cyst for 14 cm., and filled with pus.

*Inner Surface.*—Covered with flakes of pus. On the inner surface of the cyst could be seen the fimbriated extremity of the tube, freely patent and admitting easily a uterine sound. The pus contents of the tube had evidently discharged into the cyst.

*Right Tube and Ovary.*—The right Fallopian tube distended with pus and ovary incorporated in a disorganized abscess mass the size of an orange.

#### POST-OPERATIVE RECORD.

The temperature after the operation 97.8, pulse 98. Highest temperature 100, highest pulse rate 100, which soon dropped to normal, where it remained during the convalescence. The stitches were removed on the eighth day, union by first intention. The patient sat up on the eleventh day. She made a rapid and satisfactory recovery.

This case is reported as a contribution to the study of infected cysts. It is not frequent that the route of infection is so clearly demonstrated as in this case, where the patent ostium abdominalis showed the direct route of the infection. Since the old-time practice of tapping ovarian cysts has ceased it is comparatively seldom that a true suppurating ovarian cyst of the ovary is encountered. Statistics show that suppurating ovarian cysts almost always end fatally, even when the utmost care is exercised in their removal to protect the peritoneal contents. In those cases that do not end so unfortunately the question arises, Was the case one of septic infection, or was it one where the fluid closely simulated a pus collection? Rulven Peterson\* reports a most interesting case bearing upon this point, in which an ovarian tumor with twisted pedicle showed all the macroscopical lesions of suppurating cyst, but smears of the supposed pus showed that no organisms were present, but the gross appearances so closely simulating pus were the results of necrotic changes in the epithelial lining of the cyst, due to the twist in the pedicle and the consequent necrosis of the cyst wall, and not to septic absorption.

\* American Journal of Obstetrics, June, 1902.

*Different Organisms.*—Almost all pathogenic organisms have been definitely isolated in suppurating ovarian cysts, and by most devious ways have they found entrance into the cysts, either directly by aspiration or puncture through the abdominal wall or vagina or from some adherent viscus rich in germs,



Fig. 2.—Interior of cyst, showing patent condition of abdominal opening of fallopian tube. Probe passed through cyst wall into tube.

such as the intestine, the appendix, the bladder, or, as in this case, through the Fallopian tube.

Bumm reports that he found virulent streptococci in a suppurating cyst which he removed from a patient recently confined. Tavel and Lanz report finding the staphylococcus in the pus of a suppurating dermoid cyst. Herzfeld and Block have also found the straphylococcus in purulent cysts, both patients dying soon after the operation.

Löhlein reports finding the colon bacillus in an intra-ligamentous ovarian cyst, which was adherent to the colon by dense adhesions. Menge also found the colon bacillus in two

cases of suppurating ovarian cysts, and a gas-producing bacillus in another case. Madelener reports tubercle bacilli in a number of suppurating ovarian cysts, and Werth Kummel, Walsberg, Sudeck, and Pitha each report cases of suppurating cysts containing the typhoid bacillus.

Dr. T. J. Watkins\* reports a case where the infection was found to be due to pneumococcus and straphylococcus albus. In this case the operation was followed by sloughing of the lower part of the abdominal wound and protrusion of the intestines, with a copious discharge of serum, which showed pure straphylococcus infection. The patient died on the fifth or sixth day.

These cases illustrate the variety and virulence of the micro-organisms invading ovarian cysts, and the grave risks that must be encountered of a general infection during their removal by the abdominal route.

As we have proved the value of the vaginal route in the surgical treatment of pus tubes, not only in lessened mortality, but also as favoring less destruction of tissue, so we are not approaching the same line of treatment for suppurating ovarian cysts. By vaginal incision the cyst may be approached, and, if small, drawn into the vagina, the pedicle ligated and the cyst removed. If large, or situated high in the pelvis, with more or less extensive adhesions, the cyst may be incised, the contents evacuated, and good drainage established, trusting that the cyst cavity may be gradually obliterated. By this route there is but slight risk of infecting the general peritoneal cavity, shock is reduced to the minimum, and the mortality rate greatly lowered. Though, in large and adherent cysts, there is always the possibility of an incomplete operation; still, where the risks of a fatal infection by the abdominal route is the only other alternative, it is better surgical judgment to choose the safer, though the less spectacular and brilliant method. The technique of vaginal celiotomy, in the hands of the best gynaecologists, is constantly improving. The incisions are longer and the field of operation is more freely exposed.

In operating through the vagina for the removal of a septic cyst, the peritoneal cavity may be entered either anterior to the uterus or through Douglas' cul-de-sac, depending upon the

\* American Journal of Obstetrics, September, 1902.

position of the tumor. The longitudinal incision, extending almost the entire length of the anterior vaginal wall, gives the freest access anteriorly, while the transverse incision gives the largest opening posteriorly.

Two points are to be emphasized in the advancement of our knowledge of suppurating ovarian cysts: First, that there be made a careful microscopical and bacteriological examination of each case reported, that in time accurate statistics may be obtained of the percentage of cases containing pathogenic micro-organisms, and, secondly, in the treatment, that the vaginal route be given the preference whenever the conditions permit it.

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## ADENOIDS: A CLINICAL STUDY.\*

BY VINCENT GREEN, M. D.

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To bring before you so trite and hackneyed a subject as adenoids must at first thought seem almost an impertinence, but there exists a considerable divergence of opinion as to the etiology and treatment which always clothes the subject with interest. Further, this is mainly a relation of clinical experience.

Any attempt to explain the causation of adenoids must be prefaced by a few remarks on the pathology and histology. The mucous membrane lining the pharyngeal vault and its immediate vicinity is well supplied with mucous glands opening on its surface, and in the underlying connective tissue are the usual lymph nodules which are especially abundant in this region.

Microscopically, adenoids are found to consist of cells identical with lymph corpuscles embedded in a loose connective tissue, the interstices of which also contain large quantities of mucin.

Clinical observation has led me to believe that adenoids are brought about in much the following way. As soon as a child is able to crawl about, it inhales the dust off the floor; this, traveling in the air-current through the nasal meatus, impinges on the pharyngeal vault, in which, from its conformation, mucus always tends to accumulate. If not removed, this mucus soon becomes loaded with germs and irritating particles which cause the mucous glands to hypertrophy, with the resultant excessive secretion, and, in a child of lymphatic temperament, sets up an enormous proliferation of the lymph nodules. As soon as the adenoids have sufficiently developed to only partially block the posterior nares, respiration is carried on through the mouth. This, again, tends to increase the accumulation of mucus, both in the

\* Presented to the British Medical Society, Section of Surgery and Gynecology.

nasal cavities and the pharyngeal vault, by a back eddying of the air-current which aggravates the condition still further.

As it is quite impossible to completely remove the lymph nodules underlying the mucosa in this region, recurrence of the adenoid condition after operation is only to be expected if the pharyngeal vault is again exposed to a similar irritation. Hence I contend that the after-treatment is as important as the operation itself.

Adenoids give rise to a train of symptoms too well known to require enumerating, but, paradoxical though it may seem, this very familiarity with the symptoms leads to error in diagnosis.

#### *Diagnosis.*

To make a correct and certain diagnosis the pharyngeal vault must be seen, or felt. The so-called "classical symptoms," from the vacant expression to the snoring at night, are common to all forms of chronic nasal obstruction, whatever the cause. Hypertrophied turbinates, a not uncommon condition in children, and deflected septum are sometimes the only morbid conditions present in patients presenting all the classical symptoms of adenoids. It should also not be forgotten that adenoids are not uncommon in adults. I have removed them from four patients over 30, and from several between the ages of 18 and 24.

In the case of children, owing to the difficulty of using the posterior rhinoscopic mirror, I usually depend upon an examination of the pharyngeal vault with the moistened finger. With practice this can be done without greatly upsetting the little patient, for there is no necessity to try and remove a little, nor even to see if it will bleed. I would specially emphasize the necessity for seeing or feeling the growth before diagnosing its presence.

I have referred to hypertrophied turbinates as a cause of nasal obstruction. This condition is also met with as a complication of adenoids, usually in older children, though I have seen it in a child of five, and in a woman of 35. Where this complication is present the prognosis should be guarded, for, in such a case, removal of the adenoids will not relieve the

symptoms of obstruction—indeed for the first few days will aggravate them—and if the obstruction be not relieved, as I have already tried to show, recurrence is only to be expected.

The conclusions I have come to concerning the causation of adenoids has led me to the belief that a good deal can be done in the way of preventive treatment. Many infants are troubled during the first few months of life with an accumulation of mucus in the naso-pharynx impeding nasal respiration. This is often the starting-point in the life history of adenoids. In such cases the nares should be mopped out by means of a camel's hair brush with some suitable lotion; this causes no distress, and gives excellent results. I am quite sure that if the monthly nurses attached as much importance to the care of the nose as of the eyes there would be fewer cases of adenoids. In the matter of preventive treatment great importance attaches to the covering of the nursery floor. Parquet is the ideal, but, like other ideals, is often unattainable, especially by those with a slender purse. Next to parquet I would place cork carpeting. This has the advantages over linoleum of being warmer to the touch and less tiring to the feet. Carpets, curtains, tablecloths, in fact all upholstery that can hold dust, should be abolished from the nursery.

On the subject of treatment there is, I regret, very little to be said, for we have not yet found a similimum, at least I have not; possibly we may hear of it to-night. I do not mean to say that operation is necessary in every case; that is not my experience. Where nasal respiration is still fairly good a cure may often be effected by carefully regulated breathing exercises, the persistent use of a liquid nasal snuff and the elastic chin-strap, with at least a two months' residence at the seaside, preferably in the Isle of Thanet.

Where nasal respiration is nearly or quite impossible immediate operation is advisable. A great deal has been written on the choice of an anaesthetic and the instrument employed to remove the growth. Some perform the operation with a Gottstein curette under gas. Other prefer Lowenberg's forceps and chloroform. If the operator is sure of his assistant, by which I mean they work together without confusion

or overlapping, the operation can be done thoroughly and with certainty under nitrous oxide. If the operator, however, is dependent entirely upon his own exertions or prefers to use Lowenberg's forceps, he will probably only get sufficient time for the operation by using the more dangerous anaesthetic. In the out-patient clinic at this hospital I have always had the advantage of excellent assistants and have not found the briefness of nitrous oxide anaesthesia a disadvantage. That there is time is, I think, shown by the fact that during the last two years in the same clinic fifty-one patients have had the double operation of tonsillotomy and adenectomy performed under the one administration of gas. There are one or two points in the use of the curette which I have learned by experience to be of some practical value. I always like to have the curette in a jug of water on the instrument table. If the curette is not thoroughly wet the uvula is very apt to stick to it, get carried back into the vault, and in part removed. Another point is the curette should be grasped in the closed fist, the end of the handle projecting between the thumb and first finger. If tough, as the adenoids sometimes are, only in this way can sufficient power over the instrument be obtained, certainly very much more than when the instrument is held like a pen. After curetting as the patient is being rolled on to one side, the forefinger should be slipped into the vault for a general survey which should always include a careful examination of the post-nares to ensure their being quite free. Sit the patient up as soon as he is out of the anaesthetic, and you cannot start him blowing his nose too soon. After the operation, to my mind, the most important part of the treatment has yet to come. I feel convinced, from my own experience both at the hospital and in private, that 90 per cent. of the cases of recurrence are due to neglect in the after-treatment. Whether you use gas or chloroform, Gottstein's curette or Lowenberg's forceps, are mere details in comparison with the after-treatment. A month or two back I was asked to see a boy, aged twelve, suffering from a persistent dry cough. The history given was that eighteen months before he had had his adenoids removed under chloroform by an eminent specialist whose moralizings on the

wickedness of his confreres in general and of those who perform adenectomies under gas in particular have lately occupied the pages of sundry publications. On questioning the mother I ascertained the fact that the only directions as to after-treatment were those written at the bottom of a prescription for a lotion, "To be used as a spray night and morning." The adenoids had recurred badly, and their removal under gas relieved the cough.

It cannot be too strongly impressed upon those responsible for the nursing of the patient that the success of the operation depends upon the way in which they carry out the after-treatment, and also that the adenoids will most surely return if the patient is not broken of what is no longer a necessity but merely a bad habit, namely, breathing through the mouth instead of the nose.

For the relief of the soreness and aching and to some extent as a haemostatic, I know of nothing better than the ordinary confectioner's ice. It is greatly appreciated, especially where the patient is a small boy. An important aid in the cure is the use of the elastic chin strap (of which I show you an example). This should be ready beforehand and a spray should also be prepared. I prefer one of calendula  $\frac{3}{i}$  to the  $\frac{5}{i}$  of normal saline solution. I find it useful to give the following directions:

For the first two days the patient should stay in bed and use the spray every two hours, having first blown the nose, and after that, for at any rate three weeks, thrice daily. Latterly the lotion may with advantage be used as a snuff instead of as a spray. The chin-strap should be worn day and night for five days, and after that for three weeks at night only; but if during the day the patient is noticed to be breathing through the mouth it should be at once resumed. After the first few days the patient should practice deep breathing through the nose, lying full length on his back on the floor, and a course of gymnastics will also aid in developing the respiratory passages. In uncomplicated cases (where this after-treatment is carried out) a cure may be confidently looked for. With careful and persistent after-treatment such as I have detailed, I do not believe it to be imperative that

every little nook and cranny be searched with a pair of cutting forceps in the anxiety to get away every particle of adenoid tissue, for the performance of which the use of chloroform anæsthesia becomes a necessity.

#### *Discussion.*

Dudley Wright said he wished to raise the medical side of the question. He had every sympathy with those of his colleagues who tried to treat adenoid growths by medicines. Hitherto he had been defeated in his efforts in this direction; but he recognized that in the future there would be success in that direction. The histology of such growths was very plain. They consisted simply of embryonic connective tissue, and there were similar examples of embryonic connective tissue forming in diseased states in different parts of the body which were perfectly amenable to medicinal treatment. The gumma might be instanced as a case in point. In a gumma there was almost identically the same kind of tissue. True, it was badly supplied with blood-vessels, but for that reason one would be the more surprised that remedies should act upon it at all. But, for some unknown reason, the iodide of potassium which did so much good in the case of gummata had practically no influence upon the connective tissue growths known as adenoids. In his opinion those growths held a somewhat analogous position, as regards cure, to cancer, though not, of course, with regard to the actual outcome and eventual history. Under certain circumstances cancerous growths would disappear practically without treatment, though that was very unusual. The same had been reported in connection with adenoids in their earlier stages. These growths also, after thirty, or thirty-five years, tended to undergo atrophy, which he took to be an indication of the early onset of senile degeneration of tissue, for that degeneration was always earliest in lymphoid and glandular tissue, as, for instance, in Peyer's patches in the large intestine. Still, adenoids did occasionally disappear during an attack of influenza, and several cases had been reported by reliable observers, showing that the toxin of influenza was inimical to them. With all due deference to Dr. Green's opinion, he feared he could not follow him in regard to the etiology of adenoids. Possibly, dust was an exciting cause, but he felt it was necessary to look to a deeper-lying cause than external irritants. He felt that there was some constitutional state at the bottom. No such growths occurred without there being some condition, either inherited, or acquired, but probably

inherited. By ascertaining what that condition was one would get a step nearer the medicinal treatment. When the child blew its nose after the operation care should be taken that both nostrils were not closed at the same time; otherwise there was great risk that the blood and pus which accumulated in the naso-pharynx after those operations, would run into the Eustachian tube and set up acute otitis. That was a point of great importance, which it would be well to bear in mind.

Dr. Nankivell felt that the point which Dudley Wright had laid stress on was important. If dust were the sole cause of adenoids, he felt that all children would have them, which was not the case. There seemed to be some deficient vitality in children who had them. He believed the author had not stated the distinct indication for operation in those cases. He (Dr. Nankivell) thought the indication was when the child could not inspire or expire through either nostril. Short of that, he advised medical treatment. He thought *hydriodic acid* was useful in the condition. He had given it internally, in small doses suited to the child's age. It might be supplemented with advantage by the yellow iodide of mercury. He thought the course of after-treatment which Dr. Green had so ably spoken of should be carried out early, as a form of medical treatment. It was remarkable how soon the passage of pure air through the nostril would bring about a diminution in the size of the adenoids and prepare the subject of them for a natural cure.

Dr. Blackley said there were very few medical men of any experience who had not had a great many cases of adenoids through their hands. He was glad Dr. Green had given what he considered a simple test of the necessity of interference, namely, that of breathing through the nose. He joined issue with Dr. Nankivell when he counselled abstaining from surgical interference if the child could breathe through either nostril. A child ought to be able to breathe through both nostrils when the mouth was closed. If that could not be done, both on exertion and during the night, something operative ought soon to be undertaken, especially in the cases of children approaching puberty; the chest would otherwise suffer in shape and capacity. He had seen cases of pigeon-chest, in which objection had been taken to operation, and where early operative interference would have prevented that deformity. At the same time, something could be done to remedy the distortion of the chest, even after the lapse of some years, if it were well taken in hand, and breathing exercises thoroughly carried out. In a good many cases he had advised temporizing. In some the results of that were quite satisfactory. He had been accustomed to send such children

to the seaside and, where it could be arranged, had advised the parents to live at the seaside altogether. In addition, he had recommended the use of sea-water as a gargle, or to snuff up the nostrils freely, and to bathe the head, neck and chest at least every day, if the child did not have a full bath daily. That, with the practice of nose-breathing, ensured if necessary by a chin-strap, did a very great deal. He thought highly of iodide of potassium in such cases.

Dr. Roberson Day said that in the out-patient department for diseases of children adenoids was one of the commonest conditions coming under notice. He would like to know what the cause of the trouble was. In most cases of the kind he believed there was a tubercular origin, and a history of tuberculosis in some near relative could be elicited in many instances. The same causes which produced tuberculosis were favorable to the occurrence of adenoids. In the matter of treatment his rule was that if they caused any symptoms, i.e., such as deafness, obstruction to breathing, snoring, etc., they should be dealt with surgically. If breathing could be carried on with the mouth closed, medicinal treatment should be employed. The chin-strap was a most excellent apparatus. By insisting on a child breathing through the natural passages, doubtless adenoids could be cured without operative interference. It was very important to keep such children free from nasal catarrhs by hygienic means. When the catarrh occurred with obstruction of the nose, some lubricant, like glycerine, applied to the nose, followed by fomentation, would conduce to clearing the nasal passages, and by keeping up a uniform temperature and giving the indicated medicine, the most useful being arsenicum, the condition could be cured. If a child with adenoids were allowed to go about with a streaming nose nothing would prevent the growth making rapid strides. With regard to medicine, calcarea phosphoriae 3 gave the best results, but something was wanted which would act more promptly. In bad relapsing cases he gave tuberculinum. It was always necessary to treat the local as well as the constitutional condition, and tuberculinum as an intercurrent medicine had done great things. He gave the thirtieth dilution, two or three drops once a week, preferably on Sunday, and then the child recognized it as his Sunday medicine.

Dr. Green, in reply, said if there was any truth in his theory of causation, namely, that adenoids were due to the irritation of lymphoid tissue, as he thought there was, then there certainly should be a similimum for the condition. He divided his cases into two classes—those who could breathe through the nose, and those who could not. If the patient could so breathe

the case was treated on medical and hygienic lines. During the last summer he had had striking results in two cases of this class. One was that of a boy, aged 6, with enlarged tonsils and adenoids. The mother made the chin-strap as directed, took the boy to Margate, where he remained two months, and when he returned the tonsils were normal in size and the adenoids had disappeared. Dr. Green believed the iodides and ozone of the sea breezes were the similia in this case. Where the nares were blocked, he thought, for the sake of the ears and the development of the nose, operation should be done at once, without delaying to find the simillimum, especially as the operation was practically free from danger. During the last four years there had been over 350 operations for the condition at the Hospital without a fatality. Dr. Green quite agreed that inhalation of dust was not the only factor in the production of adenoids. He considered it, however, to be the chief if not the only exciting cause; but just as important a factor was the predisposing cause, which he considered to be a lymphatic constitution, certainly not in his opinion a tuberculous one. The fact that sea-water and sea air did so much good for the condition he thought was in favor of the condition being a lymphatic one. Certainly most tuberculous children were lymphatic, but most lymphatic children were not tuberculous; in fact, among them the healthiest and finest children were to be found. With regard to the point raised by Dudley Wright, about a correct blowing of the nose, he agreed with him as to importance, but as he, Dr. Green, read a paper before the Society a year ago on "Nasal Sinusitis," in which he laid great stress upon that point, he had not again referred to it.



#### THE CLINICAL FEATURES OF EARLY ECTOPIC PREGNANCY.

BY EDWIN A. NEATBY, M. D.

(Continued from page 165)

I have only incidentally alluded to interstitial pregnancy, where the ovum develops in the tube as it traverses the uterine wall. Rupture is in these cases early and severe, and the case is difficult to diagnose beforehand from intra-uterine pregnancy. The hemorrhage is often very great, and rapidly fatal. Indeed, some of these cases so quickly put an end to life that they simulate cases of poisoning, and foul play is suspected. Death may occur in from seven to twelve hours,

in intra-peritoneal rupture, and these interstitial sacs always rupture intra-peritoneally. It is only sacs in the middle part of the tube which rupture extra-peritoneally. Slide No. 20 is from a specimen in the museum of Guy's Hospital. The sac<sup>1</sup> distends the wall of the uterus and encroaches on the cavity. A corpus luteum is seen in the left ovary.

Although ovarian pregnancy cannot, perhaps, be said to be a clinical variety of ectopic gestation, yet it is historically



Fig. 3.—Interstitial sac encroaching on cavity of uterus.

of such interest that I should like to show you Slide No. 21. It is the photograph of the first proved British specimen of the kind, presented to the Royal College of Surgeons by two Leeds surgeons, Messrs. Anning and Littlewood. The specimen was exhibited at the Obstetrical Society, and reported upon by a committee in 1901. It has long been disputed whether an ovarian pregnancy could exist, but a Dutch lady doctor published a case, a section of which I have myself seen, showing the ovum actually embedded in the ovary with membranes unruptured, the ovarian albuginea covering the superficial surface. Other specimens have come to light subse-

<sup>1</sup> See Fig. 3.

quently, and ovarian pregnancy will not remain such a curiosity long.

The first undoubted published case in England is in the Royal College of Surgeons' Museum. It shows the right ovary and part of the left with the right fallopian tube. In the right ovary is a cavity which contains, partly embedded in blood-clot, the products of an early gestation which occurred within the ovary; the villous surface of the chorion is distinctly recognized to the naked eye.

The patient was twenty-eight years of age, and had been married five months; there had been no previous pregnancy. Menstruation was usually normal. Laparotomy was performed about thirty-six hours after what was diagnosed as the rupture of an ectopic gestation (August 27, 1900). About two pints of blood and clot were removed, together with a small ovum about the size of a Barcelona nut; this fitted into a firm envelope composed of laminated coagula. There was a rent in the right ovary leading to a cavity which contained some blood; and to this cavity the ovum was exactly adapted, indicating the ovarian origin of the pregnancy (in the preparation the extruded ovum and clot have been replaced within the cavity in the ovary). The right tube which is removed showed no evidence of rupture. The left tube was examined and found to be normal. The cystic portion of the left ovary was cut away.

The patient made a good recovery.

I have one or two more slides of later stages of pregnancy and some curiosities which may be of interest.

[Slides 22 and 23 show a cyst,<sup>1</sup> about eight inches long, measured vertically, and containing a fetus of about the eighth month, with cord and placenta. The right fallopian tube is lost on its surface, and between it and the visible part of the tube the ovary may be seen. The left fallopian tube is distinct from the cyst, its fimbriated extremity has been cut away. The left ovary, extremely flattened and atrophied, cannot be seen, as it lies deeply hidden between the cyst and the side of the left broad ligament. The rectum is closely adherent to the back of the cyst; the uterus, five inches in length, contains a well-formed decidua. The fetus, which has an encephalocele covered by the cyst, is kept in the position it held at death; it lies with its head in Douglas' pouch, below the upper part of

<sup>1</sup> See Fig. 4.

the vagina; the occiput looks to the left, and the right parietal bone is the most forward.

From a woman aged thirty-four. For several months before her death she was suspected of being the subject of malignant disease of the ovary; repeated hemorrhages had occurred, which were taken for menstruation; other symptoms of pregnancy were absent, and the mammae were small and



Fig. 4.—Ectopic gestation sac at eighth month.

pendulous to the last. She died rather suddenly in the night, a few days after admission into hospital. The peritoneal cavity was found filled with coagula, which issued from a rent in the upper and anterior part of the cyst.

[Slide 24, shows to what perfection an ectopic fetus may attain. Female fetus, from cyst in right side of abdomen, removed six months after completion of pregnancy. Length 2 ft. Weight 4 lbs. 3 ozs. Nails long, well developed. Urachus and umbilical vessels open.

Mother, aged twenty-eight, married eight years, never before pregnant. In February, menstruation closed. In June, movement felt. In November, false labor, with vaginal discharge of blood and flesh-like substance. In February next,

menstruation re-appeared; removed by "gastrotomy"; placenta adherent and left; wound closed. Complete recovery.

Slide 25 illustrates an unusual accident.

Cyst and fetus from a case of extra-uterine gestation.<sup>1</sup>

Large portion of cyst wall occupied by placenta-like tissue. Wall of cyst contained unstriped muscle. Cyst was adherent to omentum from which it derived its blood supply. It occupied left side of abdomen and fallopian tube was shortened

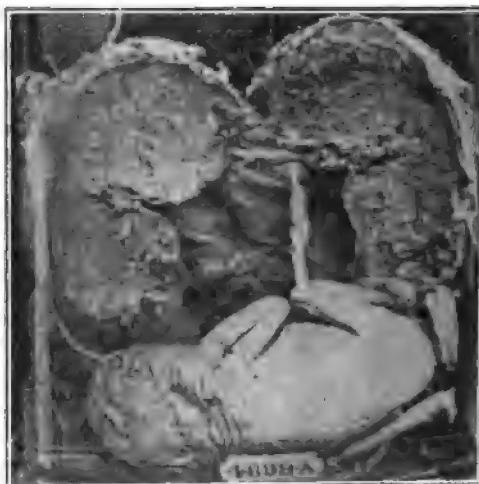


Fig. 5.—Dr. Heywood Smith's case from Royal College of Surgeons' Museum.

but not connected with the cyst. The structure of cyst wall and the short tube suggest separation of the distal portion of the tube.

From patient, aged thirty-four, with severe intermittent abdominal pain, vomiting, and cold sweats. Tumor on left side of abdomen from pelvis nearly to umbilicus. Abdominal section.

Slide 26 shows a thick-walled sac with left broad ligament seen from behind; consists of a dilated horn of a bicornuate uterus laid open to show skeleton of retained fetus. On the reverse of preparation left fallopian tube and cut end of round ligament seen.

<sup>1</sup> See Fig. 5.

Woman, aged thirty, admitted for abdominal swelling and pregnancy. There was no induction of pregnancy. Laparotomy performed for the removal of supposed sub-peritoneal myoma.

Slide 27 from Guy's Hospital Museum shows a sac formed in the left undeveloped horn of a uterus bicornis. The pregnancy is between two and three months, the fetus having fallen from the sac. The chorionic villi are abundant, and there is a decidua in the uterus, and a corpus luteum in the right ovary.

Patient went to Guy's for an uneasy feeling in the abdomen, and a few days later fainted, and died in four hours.

Slide 28 shows the bones of a lamb retained long in utero. The bones are bleached and dry, and all their relations altered by compression. All the soft tissues are removed. This occurs also in tubal gestation sacs, and differs from a lithopædion where the bones and soft tissues are fused together by pressure and deposit of lime salts, and often so altered in shape that individual bones cannot be recognized, and scarcely any parts of the fetus made out.

Slide 29 shows a lithopædion which was taken after death from the right side of the lower part of the abdominal cavity. The uterus and appendages have been removed with the specimen, but they afford no evidence as to the original site of gestation.

From a woman, aged seventy-six, who thirty-seven years previously had been told that she was pregnant; no labor resulted, and laparotomy was proposed, but this the patient refused.

Slide 30 gives a diagram showing (a) pregnancy in one half of a double uterus; (b) pregnancy in the undeveloped horn of a bicornuate uterus.

Slide 31 gives diagrams showing (c) tubal pregnancy; (b) tubo-uterine (interstitial) pregnancy. Note position of round ligament in each.]

#### *Discussion.*

Dr. Wynne Thomas could imagine no greater catastrophe happening to any woman than the rupture of a tubal pregnancy. It required a good deal of imagination to suppose that a spermatozoon was gifted with such a capacity of wandering in the way described by the author of the paper, and to find

the right spot to attack. In a case where it was distinctly proved that the end of the tube was blocked, it seemed to him (the speaker) that it might have taken place after the spermatozoon had entered and impregnated the ovum which it found up in the tube; the pregnancy having taken place, a certain amount of inflammation followed and blocked up the tube. He thought they would all congratulate Dr. Johnstone on the successful result of his operation. It was difficult in a great many cases to obtain a correct history, and the fact that there had been no symptoms previous to the rupture of the tube might put a practitioner off his guard. Lawson Tait had said that he had never seen a case, had never heard of a case, and had never come across a specimen in any museum of ovarian pregnancy; but in the year 1901 a case was sent up which was examined by a committee of experts who proved without doubt that it was a case of ovarian pregnancy. Personally he did not see why a such a thing should not occur. If the ciliated epithelia of the tube had been so far prevented from performing their function that the ovum had not been transferred from the ovary to the uterus, and the spermatozoa, being allowed to go up to the tube, happened to find a Graafian follicle which at the time had just ruptured, he did not see any reason why conception should not take place at that situation.

Dr. Burford said that before the time of Lawson Tait very little was known about extra-uterine gestation, except as found at the post-mortem table. It was generally looked upon as one of those unavoidable accidents, like the eruption of volcanoes, which could not be prevented, and which were mourned over after the dread results had been made too manifest. In that unique work, "The Disease of Women," by Lawson Tait, the whole history and the recent development of knowledge concerning extra-uterine gestation during the previous quarter of a century was diligently set forth. Only the careful investigations which Lawson Tait made of the detail of his operative cases enabled him to carry out the entirely new procedure of diagnosing extra-uterine pregnancy and dealing successfully with it before it culminated in disaster. Since Tait died the study of the subject had been taken up by Mr. Bland-Sutton, who was probably the greatest living British authority on tubal gestation. Mr. Bland-Sutton had the good fortune to discover what nobody suspected, that not only was there such a thing as tubal gestation, but tubal abortion also, *i. e.*, that the fallopian tube might expel its contents through the open end without actual rupture. The result, however, was, practically the same as in rupture, the death of the patient, sooner or later, unless operative relief was carried out. It was most interesting to discover that the behavior of the tube under circum-

stances of gestation should as nearly as possible be founded on the model of the prototype, the uterus. The author had raised one point upon which he (the President) would ask him to be a little more elaborate, namely, the liability in hasty diagnosis for early extra-uterine gestation to be confounded with ordinary abortion. This was a perfectly avoidable mistake if only certain clinical signs characteristic of these conditions were carefully borne in mind. It was in the early stages of tubal gestation this mistake was most likely to be made. When he (Dr. Burford) was in Berlin some years ago, working with Professor Martin, certain matters connected with tubal gestation had been investigated by that authority, the results of which the author had incorporated in his paper. The first was that Martin attached much importance in the early diagnosis of unruptured tubal pregnancy to the pulsation of the uterine artery in one cul-de-sac at the side of the uterus. When one found a uterus with an established history of recent gestation, with an artery easily made out, coursing in the cul-de-sac over the ordinary small swelling, the probability was that that small swelling was a tubal gestation. The other point upon which Martin laid great stress was that what was called tubal colic could not possibly exist.

Dr. Burford narrated one or two cases which had occurred in his own experience. He operated upon the first case of extra-uterine gestation which was operated in the hospital; the patient had passed through the hands of three or four allopaths before she came to him, through the agency of Major Deane. The history of tubal gestation was as plain as it could be, and how it could have been overlooked was to him a marvel. The fetus was certified by Mr. Bland-Sutton to be a fetus of twenty-six weeks' gestation. It was expelled from the tube into the abdominal cavity, and had lived there for some time, and died at the twenty-sixth week of its existence. The patient was now perfectly well. In another case, with which unfortunately he had nothing personally to do, a lady of his acquaintance came to him in great grief and said her sister-in-law had suddenly died of tubal gestation. This patient had been known to be three months pregnant, she got up on Sunday morning, breakfasted with the family at eight o'clock without an ache or a pain, and at eight o'clock in the evening was dead; tubal rupture having occurred during the day. That case gave some idea of the awful suddenness with which this condition occurred, and it also gave a very clear idea of the absolute necessity (which he invited Dr. Neatby to dilate upon) for drawing up in categorical form a clear and lucid statement of the cardinal indications of extra-uterine gestation, particularly in the early months, when the greatest danger existed.

Dr. Neatby, in reply to Dr. Thomas' remarks, said that in the first place the difficulties of the spermatozoön mentioned were not so insuperable as might be supposed. Spermatozoa lived and flourished for a greater or less length of time in the abdominal cavity; they had been found during life in the tube, and had been found immediately after death in the peritoneal cavity both of men and animals. Therefore, if one conceived that such minute organisms were living in the peritoneal cavity, it was not very difficult to suppose that they could traverse the distance from one fallopian orifice to the other. With regard to the less active ovum, it was perfectly well-known that if the appendages became prolapsed into the pouch of Douglas that the orifice of one tube might be very close indeed to the corpus luteum or the Graafian vesicle of the opposite ovary, but the thing which proved what he stated was that the blocks were obviously permanent. For instance, a portion of the undeveloped Müller's duct might be found to be merely an impervious fibrous cord; and, indeed, it was pretty well established that the condition he had been discussing obtained. He did not think the cilia were very important, because the spermatozoa easily penetrated the fallopian tube, and where examination had been made in cases of tubal gestation cilia were generally found; they were more often found than not. It was believed that a tubal gestation was at least as common in a normal fallopian tube as in an abnormal one, if not more common. In his paper he did not refer at all to treatment. The question of operation was a very difficult one. It was easy enough to suggest that there should never be any delay in operating, and if the patient was in a condition to be operated upon with safety, it was perfectly clear there need be no delay, but there were cases in which it was doubtful whether the patient would survive the operation, and unless the practitioner felt that he must give the patient the last and only chance, and he was practically convinced it was the only chance, he would hold his hand in moribund cases. Nowadays, with the help of transfusion, which had been largely used in the hospital and had been demonstrated to be such a wonderful restorative by Dr. Burford in many of his cases, it was possible to operate in more questionable cases than practitioners would have operated on a few years ago. He learnt a very useful test from Mr. Knox Shaw as to when a patient was in a condition to be operated upon; if the patient rallied after injecting a large amount of saline fluid into the subcutaneous cellular tissue, she might be considered well enough to be operated upon.

## PRIMARY TRACHELORRHAPHY.\*

BY GEO. H. DONAHUE, A. B., M. D.

At a meeting of the Queens Nassau Medical Society in February, 1901, I presented a paper with the title, "As to the Advisability of the Immediate Repair of Lacerated Services," in which I took the affirmative, electing twenty-four to thirty-six hours after labor as the most favorable time for the operation.

I was not a little surprised at the opposition which the paper evoked, but was more impressed by the character of the criticism on which this opposition was based. It was a fair inference from my paper that I held these lacerations primarily responsible for most cases of post-partum sub-involution and their sequelæ, while my critics contended that the conditions and symptoms which I essayed to describe were primarily due to "a modified form of sepsis," and further contended that successful operative interference at this time was inherently improbable because of the increase of liability resulting therefrom to septic infection.

My object to-day is to represent, in part, and with some amplifications, the original paper in the hope to obtain a full expression of opinion from others.

It was during my life as an interne in the Charity and Maternity hospitals on Blackwell's Island in 1883 and 1884 that I began to study from experience the causes of post-partum sub-involution. During my first period of service in the Maternity Hospital, as junior assistant, a very fatal epidemic of puerperal fever was prevailing. This epidemic was abruptly brought to a close by Dr. H. J. Garrigues during my term of service as senior assistant some six months later. The service when I became House, after another six months, was smooth-running and uneventful, and quite favorable for the study of the class of cases under consideration.

It was a part of the routine duties of the internes to note and to keep a record of the progress of involution. In the first period of service sepsis was the all-shadowing feature. So virulent was the unknown poison in many cases that long before the

\* Read before the Associated Physicians of Long Island.

dreaded chill and subsequent fever, the palpating hand could detect by its suspicious, persistent softness the beginning demoralization of the uterus. Later it seemed literally to be undergoing a kind of liquefaction; to be melting away. Palpation became useless; the organ was lost.

In the less severe cases that did not proceed to a fatal termination, the same softness and lack of tone was noted, though in lesser degree. These uteri were always large and soft, and flabby until the diseased cells began to respond to remedial measures.

In the second period, after the stamping out of the sepsis, an altogether different kind of uterus presented itself for study. Something still thwarted the process of involution in many women, but these uteri were possessed of character; they had tone, and under manipulation could easily be made to feel almost as hard as croquet balls. The fault just seemed to lie in their being too large. Every cell had to be conceived as being in a comparatively high state of functional activity.

During this time, by request of Dr. Garrigues, no examinations were made for diagnostic purposes, after the completion of the first vulvar toilet. It was merely noted that there were marked differences in the rapidity of involution in different women.

The Maternity Hospital is an adjunct of Charity. The lying-in women lived in the general hospital. At the onset of labor the patient was transferred for confinement to a pavilion used only for that purpose. After confinement the patient was again transferred to one of a number of pavilions also set aside for this purpose. After all the beds in any one pavilion had been used once, the building was sealed as tightly as possible and thoroughly fumigated and disinfected before being again used. At the end of eight or nine days; that is, at the end of the strictly clinical puerperium, the patients were transferred back to the general hospital, whence they had been wont to leave for their homes after a few days.

- When I became House I obtained the consent of my visiting surgeon, the late Dr. Paul Munde, to make an examination of every patient before she was finally transferred back to the general hospital. The position of the fundus in every case was carefully noted every day, always after the bladder had been emptied and an enema given, if necessary, to empty the bowels.

On the eighth day the examination was made with a Sims speculum, depresser, tenaculum, and uterine sound.

These examinations were not carried on a great while before my attention was arrested by the fact that in every case of sub-involution there co-existed a laceration of the cervix.

As the examinations progressed, so intimate seemed this relationship to me that if a patient showed day after day a rapidly involuting uterus I became accustomed to remark: "Here is an uninjured cervix;" or "a comparatively uninjured cervix," or, "a cervix which if injured will be likely to heal spontaneously," and per contra, if an unusual degree of sub-involution characterized the puerperium, I felt no hesitation in asserting that the surgical repair of the cervix would prove to be a necessity, and I do not recall that I erred much in my prognoses.

In short, the injury to the cervix seemed to be a necessary antecedent to the sub-involution, and seemed to stand "in that peculiar relation which we call physical causation."

In a period covering six weeks (the cervices were rotating, and at that time were of that duration), seventy-five women were confined: Of these seventy-five, two, on the eighth day, showed no sign whatsoever of laceration of the cervix. These two left the hospital for their homes within a few days as presenting no abnormality resulting from parturition. In their cases the process of involution was pre-eminently rapid and satisfactory. The other seventy-three were transferred to the general hospital as gynecological cases, and as many as could be brought to consent were treated and prepared for operation.

As a result of local treatment all but eighteen were finally discharged as not requiring operation. These eighteen women were operated on on an average of about six weeks after delivery. In every instance the post-operative process of involution was appreciably more rapid, as carefully noted at the time of the removal of the stitches, than had obtained during the corresponding period of preparatory treatment.

After I left the hospital and entered private practice I adopted as far as possible the same general course of procedure. My obstetric patients were advised that their future physical well-being depended in no small degree on the preservation of the integrity of the genital tract—that lacerations of the perineum

and vagina could be, and ought to be, repaired immediately, and lacerations of the cervix uteri about six or eight weeks later, or as soon thereafter as possible or practicable.

This practice I continued until a few years ago.

In September, 1898, I delivered a patient of her second child. Sub-involution markedly characterized the puerium. The position of the fundus was always very much higher in the abdominal cavity than I had hoped to find it. The lochia was excessive, and continued a bright red an unusually long time. Long after getting up the discharge persisted, and the linen was always stained a dirty red or brown. For weeks I treated this patient for the annoying symptoms, subjective and objective; and, finally, after nearly three months of post-partum suffering, trachelorrhaphy was consented to, and the patient relieved. Two years later this patient was delivered by me of her third child. but before this event took place the prospective mother wanted to know "why, if this operation had to be performed, it could not be done and over while she had to remain in bed anyway." I told her I would be glad to suture the torn surfaces twenty-four to thirty-six hours after child-birth, and I did so. The result was all that could be desired.

The whole character of the puerperium as compared with the previous confinement was changed; involution proceeded rapidly; subjective and objective symptoms were of the happiest kind; the stitches, silkworm gut, were removed about the eighth day; the patient was sitting up on the tenth, and thereafter was independent of medical or surgical aid.

Since that time I have deemed it my duty to urge on primiparæ, and on multiparæ in whose cases previous lacerations had been repaired, the wisdom of the primary repair of these injuries.

My experience, it is true, has not been very extensive, but it has been happy enough to convince me that in the near future primary repair of lacerated cervixes will be as incumbent on the obstetrician as is now the immediate repair of the lacerated perineum or vagina.

I will now read from the original paper which called forth the criticisms. It appeared in the *N. Y. Lancet* for May, 1901:

"Why is this uterus involuting so slowly?" is a question which probably every obstetrician, now and then, anxiously puts to

himself, when, in the clinical puerperium, he finds, by daily palpation of the abdominal wall a degree of involution pronouncedly incommensurate to the degree of involution that ought to have taken place during the time that has elapsed since the completion of the third stage of labor.

The question implies that there is, normally, in the very early puerperium, a daily average rate of rapidity to this process, any marked failure to approximate which means the existence within the patient of some pathological factor or factors. As a matter of fact we have all been agreeably surprised at the rapidity of the process in some cases, and been made grievously anxious because of its slowness in others.

Immediately after the expulsion of the placenta the uterus ought to be felt, in primiparæ, and in multiparæ in whom any previous cause of sub-involution has been removed, as a very firm, hard body, the upper border of which extends to a point about midway between the symphysis pubis and the umbilicus. This lasts only a short time, a few hours at most; and is recognized as a state of over-contraction, and is by no means devoid of prognostic significance. Twenty-four hours later, at the time of the usual first visit after the confinement, the fundus will have risen quite to or slightly above the umbilicus. After another twenty-four hours it will be perhaps an inch below the umbilicus. At the end of seventy-two hours it may again be found, in exceptionally fortunate cases, half way to the symphysis. On the fifth day it will be scarcely above the symphysis, and the beginning of the second week finds it sinking below and behind the symphysis.

I am making no effort to be painstakingly exact in these figures. I am simply trying to emphasize, and to help to make vivid, the fact that in normal puerparæ the degree of involution, day by day, is so considerable and so easily appreciated as to constitute a very important factor in diagnosis and prognosis.

In the type of cases thus described the puerperal phenomena approach the purely physiological in character. Almost immediately after the expulsion of the placenta, and, notwithstanding the previous prolonged and unwonted exertions, the pulse rate sinks to the normal or below, and is full, and soft, and strong. The patient, as soon as permitted, lapses into a restful slumber.

The loss of blood at the time is inconsiderable, the subsequent loss inconsequential; the lochia in a few days ceases to be much tinged with blood, and the attending physician shortly discontinues his visits, with a feeling of assurance as to the well-being of his patient that is profoundly satisfactory to a conscientious and busy practitioner.

Recall now to your minds a class of cases in which an entirely opposite condition obtains. From the very beginning of the puerperium these cases do badly. After the placenta is expelled with membranes, you are sure, intact, you feel compelled to knead the uterus an unusually long time to control—not an alarming, but an exceedingly annoying—hemorrhage. No constitutional signs of grave danger impending are present, yet your patient is not restful; her pulse is not as slow as it ought to be, nor so regular, nor so full and strong. There is an air of slight constitutional disquiet. The patient wishes that she could get asleep, but is restless; and a pain like a toothache in the small of her back, a keen sense of dragging and weight in the loins and pelvis will not permit it. You go through the routine measure of administering your patient a full dose of ergot. You remain by the bedside considerably longer than the usually allotted half hour or hour, and before departure deem it wise to leave instruction with the nurse as to massage of the uterus, the uses of ergot in emergency, the cautious use of an opiate, etc.

The next day you call, and, though the bladder has just been emptied, the fundus projects above the umbilicus. The nurse tells you there has been a rather free discharge of blood. That pain in the back is still there, and that dragging feeling in the loins, and that sense of weight and fullness in the pelvis. You increase somewhat the ergot, and continue the cautious use of the opiate. The days go by and your patient feels only slightly better; the uterus remains disquietly large; the vaginal discharges are more like a menstrual flow than like lochia. The general tone of the patient is lowered; the secretion of mfilk is apt to be delayed and scanty.

The patient has a "bad getting-up." Again the pain in the back, the sense of weight in the pelvis, and dragging in the loins, and again loss of blood seemingly following every exertion, loss of weight, anaemia, etc., etc. The general significance of these

markedly contrasting conditions is well known to every practitioner of medicine. The uterus, which is sinking below and behind the symphysis in the beginning of the second week after parturition, is a healthy, a comparatively uninjured, and a thoroughly emptied uterus undergoing normal involution.

The uterus undergoing a tedious and tardy involution is, *ipso facto*, a diseased uterus. What is the probable cause? Not infrequently the attending physician is never given opportunity to answer the question positively.

Prudential considerations deter him from seeking an answer during the early days of puerperium, unless accompanying symptoms strongly point to septic infection (a well-recognized cause of subinvolution) in which case, of course, immediate investigation and prompt and appropriate treatment is imperative. But in a vast majority of cases under consideration there will have been nothing to indicate sepsis.

Remedies will be prescribed, and with beneficial results; but the sub-involution and the distressing symptoms of sub-involution obstinately persist.

A certain percentage of these cases, and especially among the intelligent classes, will sooner or later demand to know the cause of their sufferings. You make an examination, perhaps a month or six weeks after confinement. In almost every instance the cause of all these symptoms will be found to be a laceration of the cervix uteri—a laceration which shows no tendency to heal spontaneously. With the aid of a speculum the laceration is clearly visible; the cervix swollen and purplish red in color, the torn surfaces of the lips a brighter red and eroded-looking, and from the os is pouring forth an abundant discharge of mucus, glairy, and tenacious, sometimes looking like the white of an egg, but oftener tinged a dirty red or a chocolate color.

In these cases an operation for the repair of the injury to the cervix is imperative. Such patients can never get well without resort to surgery. When is the best time to operate? I answer: from twenty-four to thirty-six hours after confinement. The torn surfaces will then still be fresh enough to obtain perfect union. I always choose this time, and have never failed to obtain good union. Right after delivery the cervix is so soft and swollen and edematous as to be distinguishable from the vaginal

wall only with difficulty. Twenty-four to thirty-six hours later it will have regained its individuality, and the os and the canal will be easily recognized. Yet why not wait and see what nature will do? It is well known that a very large percentage of these cases heal spontaneously—observers of acknowledged competency say fully three-fourths.

It is argued, in behalf of delay, that it is inconsiderate and unwise to so add to the severe trials of labor, unless the case be one of necessity, and not of election—as, for instance, to stop bleeding in persistent hemorrhage from the divided circular artery. I do not think this argument ought to carry much weight—no more weight than if advanced against a similar operation on the perineum or vagina. With proper precaution, antiseptic, and otherwise, the operation, at this time, is well borne; it is safe; it is easy to perform; it is likely to be successful. If successful, it assures normal involution with all its health-promoting consequences as against possible subinvolution with its interminable and baneful sequelæ.

Some one has likened the bacterial invasions of our organisms to the wounding and killing of soldiers on the field of battle. As the soldiers, who altogether escape, happen not to have been in the path of flying projectiles, so freedom from disease means—either that our immediate environment has been free from unicellular organisms of the pathogenic type; or that we have been lucky enough to have avoided them. Of course this conception of the origin of disease is quite too crude to merit anything but a smile, but in view of the fact that the assertion is often made that the exposure incident to the immediate repair of these injuries increases the liability to infection, the question not unnaturally arises, what are, in general, the antecedent conditions which initiate the onset of disease?

We all know that, with like exposure, some take infection not at all; some are only slightly affected; some seriously; some fatally. These differences are more and more being explained, tentatively, as being due to “differences in the physical conditions of individuals.”

One of the most striking features of recent medical literature is the increasing frequency of the use of such expressions as “favorable soil,” “pathological predisposition,” “Individual suscepti-

bility to bacterial invasion," "Susceptibility due to time of life," etc. Every one of these expressions implies that the conditions which determine the onset of disease inhere not in the bacillus in itself and merely as such (as the power resides in a projectile to maim or kill when it strikes the body with sufficient impact), but in the invaded organism.

"The healthy man is not attractive to the microbe."

"The human body is, by virtue of the properties of all its constituents, a nutritive medium little suited for the development and multiplication of the animate infective agents."

"Some depression of vital force" is "the first step."

"Some physical deterioration" induces the "proclivity to disease."

"Integrity of structure and adequacy of function are what is meant by our "powers of resistance."

The pathogenic germ, to get a foothold, must find some breach of continuity in the histologic relation of our tissues or in their metabolic processes. These lacerations furnish such initial antecedent conditions. At first simple solutions of continuity, they become, through nervous and vascular, and metabolic reactive disturbances, the cause always of subinvolution and all too frequently of septic infection. Their successful repair, at this early period, reduces to a minimum these reactive disturbances and leads to a prompt restoration to the normal of the local puerperal phenomena.

#### DISCUSSION.

Dr. R. L. Dickinson, Brooklyn: There are two times when the conditions for repair of the torn cervix are as wrong as they can be; and these are the times when repair is usually undertaken. The first is just after delivery; the second, months or years later.

Just after delivery the cervix is swollen, distorted and stretched beyond recognition. Accuracy in coaptation is impossible because exact identification of parts is out of the question.

Months or years after the delivery the cervix that has been torn is deformed and altered by contraction, or by eversion of chronic inflammation. Again, accurate coaptation is impossible because reproduction, by denudation, of raw surfaces representing with certainty the sides of the original tear is out of the question.

There is a time, however, when neither deformity from trauma nor distortion from defective healing is present. This is the desirable time to repair the cervix.

The conditions of the cervix immediately following delivery are most interesting, and without parallel elsewhere. A canal guarded by no striped muscle measuring one-half inch in diameter has opened to four inches in diameter, and, having yielded, has not regained its tone. Few men whose hands pass through that circle in search of the placenta have stopped to study its ungainly flabbiness and shapeless pocketings. Only by pulling it out through the vulva can one appreciate the condition. Flaps nearly an inch thick and three inches long \* lie doubled and contorted, blackened, bruised, puffed, and livid. No part of the body that lives ever looks less as if it would live. One section of the circle has always received more hurt than the remainder and is more deformed and swollen after it has been caught for hours between bone and bone. Because the whole edge and inner face of the outer os look flayed and shaggy, it is almost out of the question to determine what is tear and what is abrasion. As to which was which I have done my share of guessing, in thirty-seven cases of which I have notes and in more of which there is no record.

Even the expert pathologist and obstetrician Webster cannot "make out the position of the os externum," in his section of a woman who died five minutes after delivery. His sections, with the others that have been found soon after labor (Barbour, Strate, and Varnier) are presented to make clear the difficulties of even sufficient exactness for practical purposes. And the rapid shrinkage is also demonstrated in further sections. Barbour's fifth day case is excluded as probably showing subinvolution from sepsis.

A second valid objection to immediate repair is that bleeding

SOURCE.	PERIOD AFTER DELIVERY.	THICKNESS OF ANTERIOR LIP.		THICKNESS OF POSTERIOR LIP.	
		Inches	Cm.	Inches	Cm.
Webster, Fem. Pelvic Anat., Plate I	5 min. after deliv.	.18	2.	.1	.6
Barbour, Atl. Anat. Lab.	14 hours	.1	1.2	.2	.2
Webster, Plate III	Second day	.14	3.1	.1	1.6
Varnier, O. J., p. 287	68 hours	.1	1.	.1	.1
Varnier, O. J., p. 286	72 "	.1	2.	.1	1.6
Webster, F. P. A., Plate IX	4th day	.1	1.8	.1	.75
Webster, F. P. A., Pl. XII	6th day	.1?	1.	.1?	.1
Webster, F. P. A., Pl. XVII	15th day	.1	.4	.1	1.3

obscures the work, notwithstanding the fact that it is measurably arrested by strong downward traction on the cervix.

\*Varnier, *Obstétrique, Annalière*, Paris, 1900, p. 312.

Webster, *Researches in Female Pelvic Anatomy*, Pentland, Edinburgh.

A third objection lies in the fact that deliberation and due care are impossible because one is giving pain to the patient. Anæsthesia may not be employed to relieve the distress of the dragging open of the vulva, because ether or chloroform relax the uterus and cause, or at any rate favor, post-partum hemorrhage. The light is poor, the patient is too tired to put on the table, where alone careful work can be done, a weighted speculum is not at hand, and good work is hardly to be looked for.

The last objection is as strong as the first. Sutures cannot be placed in badly contused and swollen tissues which will hold satisfactorily after swelling subsides, particularly if the subsidence is rapid. The great œdema of the cervix, affecting particularly the anterior lip, makes us very uncertain how much tension to put on a stitch in order that it may hold well for a day or two. I have seen these stitches lying as loose loops in three days. That they do good is owing to the first few hours of approximation—the all-important hours in the sealing of the skin-stitch or the glueing of peritoneal layers—but all too short a period on wet mucous membranes like the mouth of the vagina.

Incidentally it may be mentioned that nature repairs very many cervical injuries, at least as far as function is concerned. This is a fair argument against routine suture post-partum. The exceptions will be stated later.

In the Brooklyn Medical Journal for September, 1890, I published a method for immediate primary repair of cervical injuries. A Skene double tenaculum is hooked into the circumference of the external os on each side of the tear and the two instruments caught in one hand. Or else both near corners of the tear are grasped in the prongs of one instrument. Thus the whole injury can be drawn to or through the vulva and seen as a straight line, and each stitch can be swung across the two sides of the tear in a single bite. The stitches may lie 1-2 to 3-4 of an inch apart on this stretched surface.

It is my present judgment that this operation need only be done to check bleeding from cervical vessels,—that is, post-partum hemorrhage not controled by ergot, the hot douche or the tampon. Whenever the uterus is contracted into a rigid globe and yet active bleeding goes on the cervix should be sutured. This constitutes the limited field of immediate suture.

For restoration of the cervix the second undesirable period is months or years after the occurrence of the injury. Such distortion has occurred, that it is within bounds to assert that it is never possible to determine the exact extent and location of the original injury. Partial healing, with or without overlapping, with or without the plug of scar tissue has taken place. Eversion and long standing inflammation of the surfaces may have developed. Chronic hyperplastic processes may have thickened one lip or

both. Cysts form, scars contract, displacements distort. Although most of our restorations are symmetrical and happy, yet a lop-sided result now and then teaches even a careful and skillful follower of Emmett that the identification of the original injury is uncertain.

Let us, then, look for a period when swelling has subsided and the parts are fairly normal in contour and proportion, if not in size; when ether can be given; when bleeding will be slight; when the surfaces are yet raw—ready to unite; when no contractions or inflammatory processes have altered the structures; and when patient and doctor are ready for unhurried work. Such favoring conditions are to be found from the third or fourth to the fourteenth day, more or less, after delivery.

The number of cases in which such a time is to be chosen is, happily, small. When the cervix injury is causing post-partum hemorrhage it is sewed at once. Most cervix tears do not call for attention at the time when perineal lacerations are sewed at the close of labor. Therefore the operation here advocated is needed for only two classes of cases:

1. Cases of extensive laceration of the cervix running up into the body of the uterus or out into the vaginal wall, or complete bilateral tears.

2. Patients with these or lesser cervical injuries who have suffered perineal injury (*a*) running through the sphincter; (*b*) well up the vagina; (*c*) in any complicated or deep variety; (*d*) with very considerable œdema, and (*e*) in the presence of exhaustion or shock.

A perineal injury that falls in one of these five classes should be repaired not at the close of labor, but in the first or second week thereafter, and the cervix is done at the same time. For such perineal operations there are required, to do good work and to secure perfect oaptation, certain things which can rarely be had at the end of that variety of labor which causes bad tears:

Measurable absence of swelling;

Measurable absence of bleeding;

Anæsthesia,—and time;

Good light;

Adequate assistance to expose injuries;

Table, and other outfit.

That union occurs in late suturing is proved by over thirty tears going through the sphincter, repaired from two days to fourteen after delivery, with only three failures, of which one was due to general sepsis, and one to violent straining.

The only reason for setting the time early—that is, within three or five days—is that the dread of the operation may be off the mind of the family. Of course, one prefers, personally, to clean up all the muss and be done when he is done, all at the end of a labor.

But the interests of the patient are the only consideration. Time was when the doctor slurred perineal injuries. Now he faces the matter frankly.

*The operation:* Any time between the second and fifteenth day will do, but after the tenth day granulation tissue makes the original injury harder to outline accurately, and a curette is needed after the seventh day to clear the wound surfaces. Earlier, a bit of gauze in a forceps, or covering the "stick sponge" clear the raw surface effectively. Nearly restored to its original shape, but of a size to handle easily through a vulva still well relaxed, the cervix is in the best condition possible. The needless slip through softened tissues and approximation is readier and quicker than at any other period of a career of a tear. Chromicized catgut of any trustworthy make has given satisfaction at this stage, although it may not always if used just after labor, because soaking and softening can open a triple tie. Plain gut is best let alone. As further involution will shrink the parts, the tied sutures should sink a little into the tissues.

My present practice is therefore (a) to suture cervical injuries at the close of labor when they seem to be the cause of post-partum hemorrhage; (b) to sew up all cervical tears in the first week in conjunction with the perineal operation when the pelvic floor injury is of such character that it should not be repaired at the close of labor, and (c) to restore severe injuries to the cervix from the third to the tenth day after delivery.

Dr. J. D. Sullivan, Brooklyn: In the first place, I will endorse the ground taken by the author of the paper in every respect except one—as to the time of operation. I put it off until the swelling is sufficiently reduced to make a good coaptation. That is now my practice—to repair six or eight days after delivery under cocaine.



## EXTRA-PERITONEAL TUMOR IN THE RECTO-SACRAL SPACE.

BY WM. FRANCIS HONAN, M. D.,  
Surgeon to the Hahnemann Metropolitan Hospitals.

This case possesses interest mainly from the fact of unusual situation of the growth, and its development, so far as could be ascertained, was without the usual causative injury or irritation.

Mary A., æt. fifty-five, widow, had borne several children, had had several miscarriages, was referred to my service in the Metropolitan Hospital with a diagnosis of retroflexion of the uterus with adhesions, or, possibly, a fibroid in its posterior wall.

Bimanual examination showed a growth of doubtful origin situated low in the pelvis in the median line and behind the rectum. Its position, firm attachments, and hardness led to the suggestion of an osteosarcoma springing from anterior wall of the sacrum. Accordingly it was decided to attack the tumor by the sacral route, adopting the method of Kraske which is used for the excision of the rectum when a malignant growth occupies a certain situation in that organ.

The patient was placed upon the right side with the hips elevated, and an incision was made from the middle of the sacrum to the posterior margin of the anus, the knife being carried to the bone at one stroke. A flap consisting of a part of the gluteus maximus is turned to the left, the sacro-sciatic ligaments aside and the coccygeus and part of the pyriformis separated from their attachments. A periosteotome was now passed under the hollow of the sacrum and the soft parts detached. The soft parts being now retracted, the coccyx and that portion of the sacrum from the level of the third sacral foramen on the left side, in a curved line, concave to the left, including fourth sacral foramen, and terminating at the left lower edge of the sacrum, was removed. Examination of the cavity thus formed showed an encapsulated tumor somewhat kidney-shaped, which had pushed the rectum forward and the coccyx backward, but attached to both structures by ad-

hesions from its capsule. It was rather more firmly adherent to the sacrum, but was delivered through the opening without much difficulty, and gave the appearance of a somewhat enlarged kidney. It was interesting to note the absence of fat in this space, for in the Kraske operation the fat being so thick in this situation behind the rectum, considerable dissection is made before the rectum is reached, and often the gut is opened before it is intended on account of the uncertain depth of adipose tissue encountered.

The report of the pathologist showed this tumor to be a myxo-sarcoma, a neoplasm originating from the parablastic tissues, especially the fibrous, cartilaginous, and fatty.

This particular specimen represents a high degree of sarcomata of immature fibro-fatty tissue. Such growths are apt to occur locally and give rise to metastases. They are apt to push aside neighboring structures and waste them by "pressure atrophy" rather than infiltrate them as in the case of the carcinomata. Bland Sutton speaks of a growth which may arise in retro-peritoneal tissue beneath the liver or in the lesser cavity of the peritoneum; such attain considerable size, are globular, and conform to the spindle-cell variety of sarcoma. He also points out the difficulty of differentiating microscopically between fibroma and spindle-celled sarcoma.

Clinically some of these retro-peritoneal growths are non-malignant. Sacro-coccygeal tumors are often cystic, or they may be caudal appendages. If cystic it may be congenital, in which case it originates from the spinal membranes. If the spinal canal be closed these sacral tumors originate from the interior of the pelvic cavity. If the cystic tumor is from the spinal membranes there is some risk in operative interference, as convulsions are likely to ensue. It is well to ascertain if the tumor has spinal connections, for the prognosis may depend more upon that than upon its origin. A tumor situated in the median line of the sacrum suggests spinal origin of the cyst. Removal of these conditions was formerly considered to be attended with great risk, but modern surgical technique has made such operations, even in the presence of extensive connections, a more or less safe procedure.

## TECHNIQUE OF THE TREATMENT OF MALIG- NANT GROWTHS WIITH THE X-RAY.

BY J. S. SCOTT, M. D., KANSAS CITY, MO.

I think the medical profession who are making a specialty of the application of the radiance are fairly well agreed on the greater portion of the technique, but there is much difference of opinion as to the details, which, however, are important, as success or failure may depend on them in cases in which this method offers the only hope of curing a disease or prolonging life.

The apparatus used should be powerful enough to excite the largest tube to its full capacity, and should be so constructed that the current is under absolute control, so that a given quantity of current, length of spark gap, and rate of interruption can be obtained at any time.

I use both the coil and the static machine. My coil is capable of giving an eighteen-inch spark of large volume. It takes from three to ten amperes at 110 volts of the direct current. A series rheostat is used in the primary. The interruptor consists of a break wheel with brushes immersed in engine oil or alboline. It is operated by a motor, with rheostat by which any number of interruptions desired can be obtained. An adjustable mica condenser is connected across break wheel. Leyden jar condensers are so placed in secondary that they are switched in or out of circuit and used in multiple with the tube, or the induced current from the jars passed through the tube.

There are adjustable multiple spark gaps on both the positive and negative sides of the secondary. They are made by screwing twelve brass balls, one-half inch in diameter and one-eighth of an inch apart, on a strap of hard rubber, with a slide rod so placed that any number of them can be turned into circuit. A sliding rod is placed in multiple with the tube for determining length of spark the tube will back up, and also for the purpose of taking part of the current from the tube when necessary.

With the above accessories, I can operate many tubes effectually that could not be operated without the spark gaps or Leyden jars. Generally a high vacuum tube will operate better without jars, and with but few interruptions in the secondary current, but low vacuum tubes from which we wish considerable penetration can be connected with the multiple spark gaps. Tubes which are extremely low, and from which it is desired to obtain a moderate penetration, can be connected with the Leyden jars in multiple, or to the induced Leyden jar current.

I do not believe there is a constant ratio of efficiency for photographic, fluoroscopic, and therapeutic purposes. I often have a tube which will give a beautiful fluoroscopic effect of a particular part, but will not make as good a radiograph as some other tube which is inferior to it in fluoroscopic effect. Then there are other tubes which are efficient for radiographing, but do not act satisfactorily for therapeutic purposes, when about the same thickness of tissue is to be penetrated.

At several different times I have used a tube on a malignant growth where I desired to penetrate a thickness of three inches. I would select a tube and adjust the vacuum so it would give a good fluoroscopic effect of an elbow of the same thickness as the growth. I would then use the tube for two or three weeks, but without beneficial effect. When I would change tubes, operating the second tube so it would give about the same penetration, the malignant growth would begin to improve in a very short time. At other times I would be obtaining satisfactory results from a certain tube, when it would get broken. I would then use a tube which would give nearly the same fluoroscopic effect, adjusting the vacuum so it would back up a parallel spark of the same length, but found that it would have little effect on the growth. In some cases the condition of the parts treated would grow worse until I again changed tubes. The tube distance was the same in all cases.

I have made many tests to try and determine what constitutes a good therapeutic tube before using the tube on a case, but without result. In order to avoid delays of testing a tube on a case to determine its therapeutic usefulness I use a series

of four or five tubes. I use one tube for a day, another tube the next day, and so on until I have used each, when I begin over again. In this way, if one or two of the tubes should be deficient in therapeutic properties, the others which are good will average up the results.

I do not use different tubes for different classes of cases, and those requiring different degrees of penetration, but use an adjustable vacuum tube and regulate its penetration by vacuum adjuster, multiple spark gaps, Leyden jar condensers, etc. I use as low a vacuum as I can and be reasonably sure of penetrating the part under treatment.

I treat the majority of my cases every day. I have had much better success with the cases I have treated daily than those treated every three, four, or five days.

I never apply the ray strong enough to produce a necrosis, as I think this irritates and stimulates the part of the growth which is not destroyed, and is liable to produce intense pain.

I begin with a short exposure, usually about four minutes if the anode of the tube is eight inches from the part to be treated. I generally use the tube at about this distance. At the end of four or five days I increase to seven or eight minutes for four or five days, then decrease to four or five minutes for four more days. If I then observe no tanning nor inflammation I increase to eight or ten minutes for four days. When reaction appears I decrease to three or four minutes until I find how long it will last, and when it begins to decrease I increase the exposure to six to ten minutes, depending upon the severity of the reaction and its duration. I then try to expose so I shall have a slight inflammation but no necrosis.

If the skin is unbroken about the growth I expose long enough to destroy the outer skin, but want a new skin formed when the outer skin scales off.

I expose a growth from as many directions as possible, so as to minimize the effects on the skin if it is healthy, and get as even an effect as possible throughout the growth.

In malignant diseases of the breast I expose from the front and side, then have the patient raise the arm over the head, and expose the axilla, whether the involvement is perceptible

**or** not. If the axillary glands can be felt, I expose the glands in the neck and around clavicle. If the growth is in the abdominal region I begin the exposure on the side on which the growth is nearest the surface and continue until I obtain a slight reaction on the skin, when I decrease the time, as described above. If the first exposure was on the abdomen I then expose the back and side of the body nearest the growth.

When exposing large areas, and especially if the growth is breaking down, I watch the general condition of the patient, and keep all the eliminating organs active. I take the pulse and temperature of the patient every day or so, and if these rise suddenly, stop the treatment until they are nearly normal, and then proceed cautiously.

In order to protect both the patient and myself from the ray, except where it is required, I have had a box, without top, constructed of copper, in which I place the tube. It is 30 inches long, 14 inches wide, and 14 inches high. It is suspended from the ceiling by a cable, which passes through two pulleys and is connected with a weight, which thus balances the box. By this method it can be easily raised or lowered as desired. Two cross-pieces of fiber are placed in the box, which act as a tube holder. There is a door five inches square on the side, which can be opened for fluoroscopic work. The bottom of the box has an opening which can be made from one half inch square to seven by ten inches, by means of four slides. The box is made of No. 18 copper, and grounded to a waterpipe, so patient cannot obtain a shock by touching it. I have placed a mirror above the box in such a place that I can watch the tube by its aid, and still be protected from the ray.

I place the patient in a physician's chair, in a horizontal position, and lower the box to desired distance above the part to be treated, and adjust the opening. If the area to be treated is very irregular I further protect normal parts by thin sheet lead.

I believe that all malignant growths which are operable, and in which the patient's condition will permit, should be operated on, and in all cases the ray applied immediately, daily, for a

period of a month for small, superficial growths, and as long as three months for the larger growths. If there are no signs of recurrence at the end of this time the ray can be stopped and the patient kept under observation for two or three years. If recurrence has made its appearance during the treatment the treatment should be continued for a month after all induration and visible growth has disappeared.

No difference how thoroughly a growth has been removed, if it is shown to be malignant on microscopical examination, I think the surrounding area should be treated as above. The only exception to the above would be a growth on the face, in which the cure would be reasonably certain by the ray alone, and the cosmetic effect would be better than by operation and ray, but if it does not respond within thirty days it should be operated upon.

Inoperable growths of external origin, in which secondary deposits in internal organs cannot be determined certainly should have a trial of the X-ray, as a certain per cent. can be cured and nearly all improved; pain lessened, and life prolonged.

Growths of internal organs which are not secondary will generally respond to treatment for some time, even years, and the growth disappears so far as can be made out by palpation. I hope some of the results will be permanent. I have several cases, in two of which an exploratory incision was made, and the diagnosis confirmed by the microscope, one a sarcoma of the kidney; the other a carcinoma of the uterus—in which the patients have regained normal weight, the cachexia has disappeared, and the general condition is good. In the patient with the sarcoma of the kidney the hemorrhages have entirely disappeared and the man is working at his trade,—that of a carpenter,—and has been for three months; and says he never felt better.

In cases which are inoperable in so far as there is no hope of cure by operation alone, either on account of extent of growth or its location, but in which considerable of the growth can be removed by the knife, I believe much time can be gained by removing all the growth possible, if the patient's condition will justify the operation; and then treating the remainder by the ray.

Some of the advantages of X-ray treatment over other methods are that we are not limited in the area that we may treat, unless it should be very large, so we can apply it to a sufficient distance surrounding the growth to include all.

I do not believe we would be justified in treating an area corresponding to more than one-fourth of the surface of the body, as it would destroy many of the sweat glands and might produce such an alterative effect that the eliminating organs would not be able to dispose of the destroyed tissues.

If care is used we can apply the ray to any organ in the body, whether vital or not. It can therefore be applied to parts which cannot be operated on, and which, if operated upon, would cause the loss of a useful organ.

I believe the application of the ray to any part, whether malignant or normal, produces a rapid tissue change, and that new tissue replaces that which is absorbed; but that it produces a more rapid change in malignant tissue than in normal. However, if too much ray is applied, new tissue, whether malignant or not, will not form, probably on account of atrophic influence.

I believe our aim in treatment should be to produce the tissue change so rapidly that the malignant tissue will not re-form, as fast as absorbed, but not strong enough to destroy or absorb the normal tissue until new tissue can take its place. We have all seen the effect on healthy skin under daily exposure. The outer skin will become thickened, hard, and come away in large scales, but unless the process is carried on too fast, new skin will be formed under the old, and take its place before it is destroyed. However, if too much ray is applied, all the skin will be destroyed, and even the underlying muscle; healing will take place from the edges, but will be very slow, and it may take months for a small area to heal. I think this tissue change takes place in the deeper structures, only in a less degree, owing to the ray being weaker.

## **Current Comment.**

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Christopher Tomkins, M. D.:

*Accouchement force* is defined to be forcible delivery either with the finger and hand or by metal instruments. Of late years, however, this term has come to be considered or to mean a method of rapidly dilating the os and cervix uteri, followed by the quick emptying of the uterus and its contents. It is used in cases where induction of premature labor is required, as in contracted pelvis and in uræmic poisoning; or to hasten the act of labor when it is essentially important to terminate it as soon as possible, as is often the case with puerperal convulsions, placenta previa, etc. Occasions like these—such as are above enumerated—are not infrequent in the life of the busy practitioner, and, to be dealt with successfully, require immediate action on the part of the physician. It is therefore important that he be well prepared to meet the emergency, should it arise. Two lives—the mother and that of her child—are in jeopardy; delay and hesitation might be fatal to either or to both. The doctor, therefore, should have fixed in his mind what he would do at such a time, and thereby be enabled to act at once.

It is my purpose to say something of my experience in dealing with such difficulties in the hope that other members of the profession may do likewise. In such a way only can there be obtained a consensus of opinion, and thus be formulated a definite form of action.

I limit myself to the consideration of such cases as occur when labor has not set in, but has to be induced, and to those where labor is eminent, or in its first stage—the os only partly dilated—and where the viability of the child can reasonably be expected, which, roughly speaking, is on or about or after the woman has completed seven months of pregnancy.

As a result of many deliveries of this kind, I have only had one fatal case. In this instance both the mother and child perished. The subject was a lady advanced in age—thirty-

nine or forty years old—had been married thirteen years, and except an abortion (which occurred about two years after marriage, when she was a two and a half months pregnant). had never conceived before.

Her case was one of those rare ones of accumulation of urea where no albumin was present on examination of the urine—fulminating in convulsions. She died, it is true, but I, at least, had the melancholy satisfaction of feeling that before she died I had done for her what I thought was best, and what had, in my experience, saved many others similarly affected.

The case but shows that ours is not an exact science, and that even the most scientific practice will fail at times. It ought not to offset, and did not in my mind offset, the good results of similar treatment in many others troubled in the same way, whose lives were saved. In obstetrical literature, if searched, will be found many cases of this kind not treated by accouchement force, but which resulted in death. I am glad to be able to say that in all of my other cases so situated and so treated, without exception, the mother's life was saved, and in the majority that of the child also. Some of these cases appeared to be very desperate, and were of a kind which commonly resulted in death in spite of all other known treatment, even when in the hands of the most reputable practitioners. I make no special claim for my own skill in dealing with them, but I do claim that, comparatively speaking, unusual and great results can be obtained by practicing this method of delivery.

I will now give a short synopsis of a few cases. They are, except in result, not extraordinary in character, but are what any good doctor can reasonably hope to accomplish when using this plan.

Mrs. Y. C. A., age about twenty-five, primipara, at term, first pregnancy, her own physician unexpectedly out of city, swollen, anasarcaous all over the body, dull, apathetic, mumbbling, delirium, had eaten vey imprudently; urine, with heat and nitric acid, solid in test tube—the tube can be inverted without disposition of contents to fall out. On examination, found os closed and no labor pains. Anæsthetized; os and

cervix uteri dilated with fingers and hands, child delivered by podalic version; mother and child both did well; complete recovery.

Mrs. C. H. S., multipara, age about thirty-eight years; when about seven months gone, urine scant and albuminous; continued to grow worse until eight months had gone, when the urine was solid in the tube on boiling, and the use of nitric acid; secretion not more than half pint daily; marked hebetude. Anesthetized; os and cervix uteri dilated with fingers and hand; quickly delivered by podalic version of twins; mother and children both did well; complete recovery.

Mrs. A. E., multipara, age about thirty-five years; urine albuminous at about six months pregnancy, till when eight and a half months gone, it was nearly solid in tube on boiling and use of nitric acid; total secretion in twenty-four hours, not more than six ounces. The usual uræmic symptoms developed. Anesthetized; os and cervix uteri dilated with fingers and hand, twins quickly delivered by podalic version; mother and children both did well; complete recovery.

Mrs. T. F. W., primipara, thirty-seven years old; uric acid diathesis, impudent eater. Showed albumin in urine when six months gone in pregnancy. Continued to grow worse as substantially related of the above case. When seven months advanced in pregnancy, urine solid in tube on boiling and use of nitric acid; determined to deliver. Os and cervix uteri dilated as above described; found vertex presenting, finished delivery with forceps. Twenty-four hours later mother had two convulsions, which yielded to treatment. She gradually improved, and finally made perfect recovery; the child lived about eight hours, and, apparently, died of immaturity and uræmic poisoning.

Mrs. S., multipara; pelvis contracted; never had child born alive. After measuring the pelvis, advised premature labor at end of seven months' pregnancy. Bougies introduced between amniotic bag and inner wall of the uterus; after twenty-four hours they were removed. The os and cervix uteri dilated as heretofore described. Bag of water ruptured. Child delivered by podalic version. Mother and child both did well, and both made a complete and uneventful recovery.

These cases could be multiplied until they reached a considerable number. They are, however, typical.

In conclusion, I wish to say that in all probability the operative character of this treatment and its name have much to do with its infrequent use. Much of this prejudice may, perhaps, be dispelled by informing our patient that, although it is an operation, no knife is used, and, indeed, generally no instrument except the hand. Usually I have found after this explanation the patient and her family no longer object, but readily submit to what has been advised. No particular strength of fingers or hand is needed in the dilatation; the os and cervix uteri being muscular tissue, yield gradually in the presence of continuous pressure. Tears of the os and cervix uteri, and of the perineum are more common than in normal labor. None such have occurred, however, in my experience of a dangerous character; when they do occur, they should be treated in the usual manner.

I also would suggest that in conditions as grave as these, if time will permit, and the emergency is not too great, a consulting physician ought to see the case and share in the responsibility of its management. The family ought to be informed of the dangerous nature of the illness, and have explained to them the fact that not to interfere would cause our interesting patient and her prospective offspring to be the almost sure prey of death.

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H. B. Sheffield, M. D.:

The treatment of *encuresis in children* must be based upon the attention to the etiological factors. It is, therefore, of greatest moment to systematically examine the patients for the organic disease and to endeavor to eliminate every symptom suspicious of organic disease. In absence of organic causes there is evidently a neurotic case to be dealt with and the treatment must be adopted accordingly. It is very important in all cases to instruct the patient (if old enough) not to abstain from micturition when called upon by Nature to do so, and to train small children to void urine about every three hours, and not to permit them to withhold the urine for a longer period. This is very important, for it is often over-

distention of the bladder and the allowance of urine to decompose for hours in the bladder that proves the primary cause of the consequent secondary etiological factors, such as atony or hyperesthesia of the bladder, presence of concretions, cystitis, etc. It is also advisable to encourage drinking of water in cases of enuresis due to concretions, cystitis, or gonorrhea, but to forbid it in other cases. The patient is not to be permitted to sleep on his back, and it is often of advantage to raise the foot of the bed in such a manner that the child's trunk and head lie deeper than the pelvis.

In enuresis due to atony a general constructive treatment is indicated. Plenty of good nourishment, change of air, cold spinal douches, medicinal tonics and electricity are usually effective in bringing about a cure. (A moderate galvanic current is usually best, one pole is applied to the symphysis or rectum, the other to the perineum.)

In incontinence of urine associated with hyperesthesia of the collum vesicae or spasm of the detrusors, an anti-spasmodic treatment is indicated, consisting of hot sitz-baths, avoidance of irritating food or drink and the administration of either belladonna or hyoscyamus.

Counter-irritation by means of sinapisms over the lumbo-sacral regions often does well, and if everything fails, this class of cases can often be very rapidly cured by gradual dilatation of the posterior urethral canal.

As to the treatment of enuresis from organic causes, nothing more will be said here than that each case must be treated as an individual disease in accordance with its etiology.

Remonstrance, severity and moral suasion will often cure cases of nervous origin or those which continue after removal of the original cause from mere habit.

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J. Collier, M. D.:

*Excision of the knee for tuberculous diseases* in children has not come into such general use as it deserves, chiefly owing to care in after-treatment resulting in flexion. The patella should be kept freely mobile from the first, and should be prevented from becoming adherent to the front

of the femur. The tendency to flexion is mainly due to contraction of the hamstrings. With each stride the alternation of flexion and extension takes place. The quadriceps extensor, however, can have no action if the patella is glued to the front of the femur. With each step there is a pull towards flexion, without any pull towards extension, and, gradually fixity in flexion results. Hence two or three weeks after operation the limb should be fixed in plaster in extension, with a window in the plaster over the patella, so that the patella may be moved several times a day to prevent adhesion. At the end of four to six months the plaster is removed, and if there is a voluntary power of extension when the limb is slightly flexed, the patient may be allowed to walk, when there should be a return of natural mobility. If there is no power of voluntary extension the patient should not use the limb without some apparatus to keep the knee straight, and this should be worn for two years. No attempt should be made at forcible movements, which only cause further adhesions with patellar fixation.

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T. A. Helme, M. D.:

I wish to call attention to the *dilatation of the cervix uteri in eclampsia* of pregnancy by means of Bossi's dilator. I have found that this dilator can effect full dilatation in twenty minutes, another ten being required for complete delivery with forceps. I have been surprised by the ease and comfort with which the instrument can be used without any laceration of the cervix, and thought this means affords a marked contrast to manual dilatation and its frequently accompanying discomfort and cramp. The advisability of ending pregnancy when once convulsions has occurred is a question worthy of thorough consideration. If the existence of pregnancy is a vital factor in the production of the eclamptic state, is not the termination of that pregnancy a vital factor in treatment?

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Robert A. Reid, M. D.:

The biography of *rheumatism in infants and young children* is very limited so far as my search into the matter reveals. Many writers allude to its occurrence, but few give it considera-

tion other than that of rheumatism as seen in the adult, whereas it presents many differences.

Acute rheumatism is a frequent disease of both infancy and childhood, but only a few, I think, recognize it to be so. The number of cases of valvular disease of the heart, mainly of the right side, in children under five years of age ought to be suggestive to doubters of the frequency of rheumatism before that period. Nor is the number of rheumatic cases limited to those having cardiac disease; there are many cases which run their full course without terminating in disease of the heart. The heart should be watched in every doubtful subject, for endocarditis is sometimes the first sign of the acute rheumatism of children, even in apparently mild cases. Pericarditis is not very rare, either. When chorea minor shows itself, the heart and the joints should be examined, for there are instances in which this disease occurs not at the end, but at the beginning of acute rheumatism.

Some claim a connection between acute articular rheumatism and quinsy. I have seen some patients in whom an attack of quinsy was pretty sure to be followed within ten days by acute rheumatism. I have, however, been able in nearly all cases to trace a connection between the rheumatic attack and chilling of the moist skin. That being so, I have a great fondness for the continued use of the warm bath in this affection. It acts as an anaesthetic, and renders the urine alkaline. The skin should always be kept enveloped in flannel in rheumatic subjects. As a prophylactic I have for years prescribed oily inunctions, particularly on the back of the neck and shoulders. I also place a great deal of reliance in cod-liver oil in chronic rheumatism. Particular care should be taken of children who show any choreic symptoms. The growing pains referred to should lead us to take precautionary measures, particularly in the administration of cod-liver oil, inunction of the skin, and the use of flannel underclothes.

A most violent rheumatic inflammation may be present in a joint and disappear within a short time, and leave no sign whatever of its former presence, a fact which is peculiar to this disease alone, yet in the heart permanent lesions are likely to result. We can partly account for this fact by the continued

and rapid movement of the heart, it being much more rapid even than during health, and more rapid in the rheumatism of children than in that of the adult, while in the joints there is usually complete voluntary or involuntary rest or immobility. Because of the marked rapidity of the heart's action in the rheumatism of children, I give aconite in full doses. Digitalis would not do so well, I think, as aconite in these cases. At the same time the blood should be rendered alkaline. The chest should be protected from cold air, and I would not allow the precordial surface to be exposed under any circumstances.

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J. W. Ballantyne, M. D.:

The management of cases of *eclampsia in labor* is still so unsatisfactory that obstetricians are glad to welcome and test any new plan of treatment which may seem to promise success. The rapid dilatation of the cervix uteri with Bossi's four-bladed dilator, and the early termination of the labor by forceps or naturally, is perhaps the newest method of management which has been placed before the profession. I have now dealt with three cases of albuminuria in pregnancy, two of which went on to eclampsia, by this method, and I place the results on record in the hope that others who have experience in this direction may be induced to do so also.

1. My first case was that of a primipara, aged twenty-three, who was admitted to the hospital on the evening of November 13, 1902. She had had three convulsions before coming in, there had been marked vertex headache for two days previously, and the os uteri was about one inch in diameter. The position was R. O. P., and the anterior fontanelle was felt presenting. She had a bad convolution just after being brought into hospital. The pelvis was somewhat narrow, and there was a large amount of albumen in the urine. I inserted the Bossi dilator at 10 p. m., and obtained full dilatation of the os in twenty minutes. I then applied forceps, but could not get rotation of the head. There was evidence that the child was dead, so I performed basilysis and rapidly extracted. The child weighed seven pounds without the brain and cranial vault bones. The mother made a slow but complete recovery. There

was no laceration of the cervix. The diagonal conjugate was just over four inches.

2. My second patient was a four-para, thirty-two years of age, who was admitted to the hospital on January 3, 1903, having been forty hours in strong labor in the first stage. She was given three successive hypodermic injections of morphine in the hope of suspending the uterine action and allowing the patient to get some sleep and rest, but after one and a quarter grains had thus been given without any result, and as it was now discovered that there was albuminuria, I decided to dilate the cervix with the Bossi dilator. She had by this time been fifty hours in strong labor, and the os, which was about two inches in diameter, had been of the same size for many hours. The presentation was the vertex, the position R. O. P. In half an hour, with the help of the Bossi dilator, I completed the dilatation of the cervix, put on forceps, and delivered a living male infant weighing seven pounds and seven ounces. Both the mother and child made good recoveries.

3. I saw my third case in consultation. The doctor who, on February 10, had not been engaged to attend this patient, a one-para, of about twenty-four years of age, but had been suddenly sent for, as convulsions had supervened. She was six and a half months advanced in pregnancy, and had five fits in rapid succession before I saw her. There was much albumen in the urine, and the cervix was very rigid, the os being barely an inch in diameter. I dilated with the Bossi dilator in thirty-five minutes to a little over three inches diameter. As it was a premature labor, I did not try to obtain full dilatation. In about half an hour afterwards the fetus was delivered with forceps; it was not viable. The mother has thus far made an uninterrupted recovery.

In none of these three cases had I any opportunity of dealing with the condition by prophylaxis, as all the patients were in labor when I was summoned; in all of them morphine was given, but only to a small extent in the first and third (one-quarter grain), and in one of them (the first) the saline infusion was injected below both breasts.

I have dealt with many cases of eclampsia since I published my first cases in 1884, and I think that if we accept the principle

of early completion of labor as the treatment of the condition, then the Bossi dilator enables us to do this more quickly than any other means; further, it would seem to do so with safety if properly used.

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Frank R. England, M. D.:

I was prompted to report this case, *ovarian tumor with obscure symptoms*, because of its clinical interest and the difficulty there was in arriving at a diagnosis before operation.

E. C., aged eighteen, single, admitted to hospital October 16, 1902. She was brought in the ambulance. On admission she complained of severe pain in the abdomen, nausea, and vomiting, difficulty in micturition, and constipation. Temperature 100 3-5° F., P. 120, R. 26, tongue dry and coated, lips cracked, teeth covered with sordes, face bore an anxious expression, and there was great restlessness.

The patient has, till the present illness, always enjoyed excellent health. Menstruation began at fifteen; always regular, but for the last few months the flow has been scanty. Nothing bearing on the case was obtained from the family history.

About the middle of July pain was first complained of in the right iliac fossa, extending to the midle line, and, at times, even to the left side. For two weeks before her admission the pain was much more severe, and for a week she had noticed swelling in the lower part of the abdomen and to the left side, which was tender on pressure and interfered with walking. Five days before entering the hospital, while out walking at Lachine, she was seized with a sudden and intense abdominal pain, and vomited several times. The following day she came into town and went to bed, where, for four days, she was treated with anodynes, poultices, etc. On examination, some general abdominal distension was noted, and the recti-muscles were rigid. In the middle line, and extending up to the umbilicus, an ovoid tumor, dull on percussion and painful on pressure, was easily made out. A saneous vaginal discharge was present, the os uteri was soft and patulous; the uterus was movable, and a large firm nodular mass was felt on the left side behind the uterus. As to diagnosis, pregnancy, ectopic gestation, and pelvic cellulitis were excluded. There was certainly a localized

peritonitis with a mass. Was this due to appendicitis with abscess, a ruptured tube, or an ovarian tumor with twisted pedicle?

Operation was advised and immediately performed. On opening the peritoneal cavity a considerable quantity of dark-colored ascitic fluid escaped. The tumor, extending up to the umbilicus, at once came into view, and had all the appearances of an ovarian cyst. It was not adherent, but as soon as the hand was passed over it blood and large pieces of soft broken-down tissue poured out. The mass was rapidly removed, and proved to be a solid tumor of the left ovary, which had undergone degeneration and had ruptured, and for five days had allowed broken-down tissue to escape into the peritoneal cavity, setting up acute pelvic peritonitis. On the right side the ovary was large and cystic; the Fallopian tube was soft, swollen, and acutely inflamed, as was the appendix, which was adherent to it. All these structures were removed.

The peritoneal cavity was carefully cleansed with hot saline solution, and the abdominal wound closed without drainage. The patient made an uneventful recovery.

The clinical history of this case teaches that advanced and grave ovarian disease may exist with but a few obscure and comparatively insignificant symptoms. The first really severe symptoms did not appear till five days before the operation, at which time rupture of the degenerated tumor undoubtedly occurred, setting free its irrigating contents to contaminate the peritoneal cavity and set up a severe pelvic peritonitis.

It was a somewhat remarkable, but most fortunate circumstance that hemorrhage into the abdomen did not occur between the time of rupture and the operation.

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R. C. Norris, M. D.:

Recognizing the fact that *eclampsia* is believed to be a toxemia, we should pay attention to the functional activity of the liver of the pregnant woman quite as closely as to that of her kidneys. It is common practice to have a bottle of urine of the pregnant woman sent to the physician and to have it tested for albumin and for its specific gravity, and so long as albumin is not found and the specific gravity is near the normal, no

further attention is paid to the case. I believe that such an examination of the urine is absolutely worthless, except when grave kidney lesions exist. Others will go farther and have a critical analysis of the urine made, involving a knowledge of the amount excreted in twenty-four hours and the percentage of the urea, and so long as they find these two factors approaching the normal they will give the case no further attention. This I also believe is a false security. While we know that two per cent. of urea is the average amount passed, we must know that this two per cent. represents a proper quantity of urine passed. Moreover, it is our duty to know not only the amount of excrementitious products the patient is able to excrete, but we also must have knowledge of what may remain to create a toxemia. That is only learned by seeing the patient frequently and noting the general symptoms of toxemia, such as headache, neuralgia, coated tongue, hebetude, salivation, insomnia, nervous irritability, eye symptoms, etc. The approach of a toxemic storm usually can be seen by the alert physician. In a case under my care, in which the most critical urinalyses were made with normal findings, the constitutional condition presented symptoms of toxemia requiring the most vigorous treatment. While urinalysis is most important, it should be remembered that it is only an index of kidney elimination, and fails to indicate the metabolic and toxin-destroying power of the liver.

When we come to the question of treating these cases, I believe that prophylactic treatment is the most important. Drugs that aim directly to promote the activity of the liver are more valuable to the pregnant woman than diuretics. Diet that lessens the tax on the liver is most important. Salines should be used frequently by a pregnant patient, apparently perfectly well, for she needs to have her liver prodded whether constitutional symptoms indicate that things are going wrong or not. A point of practical value is lavage of the intestines. While we do not know to what extent the intestines are involved in the etiology, I do know that toxæmic patients in my practice receiving intestinal lavage two or three times a week show improvement.

When we come to the treatment of convulsions, there is a

wide variation in the discussion of details. Dr. Krusen has recently laid special stress upon bleeding. He is, no doubt, correct that bleeding is occasionally indicated, but in some cases the women are anaemic; there is pallor, and the blood count will show diminution in the proportion of haemoglobin and in red blood corpuscles. Depriving such patients of twenty to thirty ounces of blood does distinct harm. Such cases are better treated by the use of veratrum viride. The anaemia of pregnancy is closely associated with toxemia, and has a practical bearing upon the use of venesection. When the pulse is 160 to 180, with but little volume, and when the patient shows profound anaemia, an abstraction of 20 to 30 ounces of blood may be distinctly disadvantageous and is not going to eliminate much poison. It will lessen blood pressure, and the real value of bleeding for eclampsia is the action upon the blood pressure. The modern practice of not bleeding every case is better than bleeding every case. We must use the best judgment when deciding in favor of venesection, bearing in mind the condition of the pulse and the blood count. There is a wide diversity of opinion as to the value of veratrum viride. I cannot understand why some men do not appreciate its value, unless it be that they have never employed it. I have repeatedly used it and, so far as the cessation of convulsions is concerned, have observed more benefit than from any other drug I have ever employed. It, too, must be given cautiously. The dosage differs according to whether the tincture or fluid extract is employed. I have seen a patient nearly killed by the use of twenty drops of the fluid extract administered hypodermatically. Sufficient should be used to keep the pulse in the neighborhood of 70 or 80.

I would like to give a word of warning as to the use of salt solution. I have found in some cases that an excessive amount of salt solution has aggravated the condition of the kidneys, has produced edema of the lungs, and helped to do the very thing which we aim to avoid. I should place as a limit one quart of salt solution and no more, until free diaphoresis, diuresis or catharsis has occurred. When there is edema of the lungs, it should not be employed at all. I have seen edema of the lungs aggravated and the patient's serum run out of her

mouth as the result of too free use of salt solution. Large amounts of salt solution are of the greatest value when *profuse* catharsis from saline purges has occurred.

I do feel that morphia is always contraindicated, but would reserve it for aggravated cases in which the convulsions recurred with great frequency and were not otherwise to be controlled.

Chloroform to be of any value must be administered by some one who can recognize the onset of a convulsion. There are prodromal symptoms of the eclamptic seizure, and during these is the time for the administration of the chloroform. Upon an attempt to give it during a seizure it will be found that very little enters the lungs, and for the same reason oxygen cannot be taken except between the convulsion seizures.

The necessity for delivering eclamptic patients quickly is always discussed. I have believed, on theoretical grounds, and practically my experience has borne it out, that the speediest method of delivery is not the safest one. If that were true, Cæsarean section would be the ideal method. Next to that is rapid dilatation or incision of the cervix. I have incised the cervix and done craniotomy upon a dead baby, delivering the baby in eight minutes. This winter I had an eclamptic patient on whom I did a Cæsarean section. Both patients died in coma, despite most rapid deliveries. The method of the rubber bag to dilate the cervix in these cases of primigravidae with rapid cervices is often too slow. The first duty is to treat the case medically, eliminate poisons, control the seizures, and then to begin by slower, less aggressive means to secure dilatation of the cervix. Here again we must consider the individual case. Some women are so weak that the shock of anesthetic and dilatation of the cervix will carry them beyond the point of recovery. Experience and good judgment are required for selecting a method of dilatation where the cervix is rigid. When the convulsions have been controled, and when the patient has passed out of her coma, the rubber bag is sufficient. When the patient remains comatose, with repeatedly recurring convulsions, she should be kept under an anesthetic and a metal dilator used, such as Bossi's four-branched instrument, and the child ex-

tracted with forceps. That rapid method should be resorted to for desperate cases only. In other cases which improve under medical treatment the slower plan of dilatation is safer.

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**Richard Freer, M. D.:**

I have read a report of cases of *fetal mortality in induced labor*, published by Gilman. His conclusions, based on nine cases, seem to be unhappy, and tempt me to narrate my experience of the operation. I have performed this operation ten times and on two women only:

I first saw H. F. in 1890; she had had at that time three pregnancies, and craniotomy was necessary in every instance. The pelvis was of the generally contracted type, and the true conjugate was decidedly less than four inches, but having no means of measuring it. I cannot give the exact dimensions. I advised induction of labor at the thirty-second week. This I did, but the child survived only about twelve hours. In 1893 under the same conditions a dead child was born, and from that date to the present year she had been pregnant five times, and has borne five living children, who have all done well.

E. B. had four children, all born naturally, before 1893. In that year I was called to her, and found that she had been in labor for eighteen hours. I failed to deliver the child with forceps, and finally had to resort to craniotomy. After delivery I found that the promontory of the sacrum was considerably enlarged, apparently due to an exostosis, but there was no history of any trouble from it. The following year craniotomy was again necessary, and then I told her that if she became pregnant again it would be advisable to induce labor at the seventh month, and during the next year this was done. The child survived only one month, and the prematurity of its birth was undoubtedly the primary cause of its death. The child born in 1897 did well, but died from broncho-pneumonia at the age of 3 months, and the last child, born in 1899, was malformed. It had congenital heart disease, and the metacarpi and metatarsi were symmetrically divided, causing the extremities to closely resemble lobster claws. This child died soon after delivery, but as its death cannot be ascribed to its

premature birth, I shall not include it in my figures. The total result is therefore 9 cases, 6 of which lived and 3 died, giving a percentage of 33.3 deaths.

I always used the largest-sized *bougie a boule* to effect delivery, and on two occasions I left it in the uterus for seventy-two hours without the slightest ill result.

Personally, I should not have the slightest hesitation in advising induction of labor in preference to Cæsarean section. The former operation is much more frequently performed in the country than is apparent from reports; not necessarily as an alternative to Cæsarean section, but often as an alternative to craniotomy. With due precautions the risk to the mother is practically nil, it can be easily performed single-handed, and the chances of the child surviving are decidedly good.

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W. H. Whaten, M. D.:

I have examined the fetus exhibited by Dr. Krim. He says it is not of itself uncommon, but that it comes from an unusual source. About two weeks ago he was called to see a little girl thirteen years of age. The mother said that she had a severe case of colic, but within a few minutes he detected something else. About fifteen minutes later this mass came away entire. The girl had been menstruating about eight months. The embryo is in the third month.

While this specimen might appear to some to be insignificant, it is of great value to the medical profession, for *a proper appreciation of an abortion* of this kind in relation to its treatment will enable us to preserve life and prevent disease arising from such cases. This is an unusual condition, because we find here the structures expelled intact, the embryo with the amnion containing the liquor amni with the chorion and the placenta, indicating a pregnancy of from ten to twelve weeks. We find usually that the entire mass is not expelled together, the embryo coming away first, or in the amniotic sac, with the placenta left in the womb. If we have treated these cases in a careful manner with clean hands there will be no trouble, but where the embryo comes away alone or in the unbroken amnion, leaving the placenta behind, there is grave danger.

In abortions from the seventh to the fourteenth week there is more danger than later, because later the placenta will be more likely to come away. I discussed this question in one of our medical societies many years ago, when a prominent specialist was present, especially in relation to the question of the amnion being expelled unbroken up to the fifth month, leaving the placenta. The specialist told me that it was an absurdity, but we all know that it is a very natural result. We know how easily the amnion may be separated, and it is often not entirely united to the chorion until the fourth or fifth month.

What has been the treatment in these cases of abortion where the placenta has been retained? Until twelve or fifteen years ago I suppose that more than three-fourths of the profession left the placenta for nature to remove. The result was that some of these women died from hemorrhage, some died from sepsis, and others had pus tubes and other troubles. The medical profession has not appreciated the gravity of a case of abortion. In every case of abortion we should remove everything as completely as nature has removed this. There is no excuse for leaving anything behind. It should not be removed to-morrow, it should be removed to-day. The curette is no way to remove a fresh placenta, for you can not tell whether you have removed all of it, and you may do injury to the soft parts. By using the finger under the most careful aseptic conditions, there is not one case in fifty in which you cannot remove the placenta entire. Then irrigate the womb if there is any possibility of infection, and your patients will all get well.

I recently operated on a woman who had been delivered from four to six weeks previously and the placenta retained, parts of it being curetted away from time to time. She had a temperature of  $105^{\circ}$  or  $106^{\circ}$ , with a very rapid pulse, with a uterus as large then as when she was delivered. I curetted the uterus with a sharp curette and removed all the remains of the placenta; then the uterus was irrigated and an opening made posteriorly into Douglas' pouch and tamponed. She made an uneventful recovery. We do not know when these recoveries will occur if the placenta is left. Be sure that the placenta is removed before you leave your patient.

**B. Strachan, M. D.:**

Mrs. N., aged twenty-five, had had, as she informed me, "a fast after-birth" with her first confinement, and had afterwards *repeated abortions*, with prolonged hemorrhage. She was aborting at the sixth or eighth week when she came under my care. As the hemorrhage was pretty free, I plugged the vagina with iodoform gauze to give the uterus plenty of time to expel its contents. As this did not succeed, she was put under chloroform, and after dilating the uterus with my fingers, I removed the fresh soft placenta without much difficulty. But while exploring to insure that the uterus was quite empty, I came across a rough flat ridge, firmly adherent to the fundus, which was removed with some considerable difficulty by scraping and sawing with the finger-nail. This was quite different from the other, being hard, fibrous, organized, and of a light chocolate-brown color, and had obviously been lodged within the uterus for some considerable time. Whether a trace of the first confinement, or a relict of a subsequent immature conception, there was no doubt it was the irritant cause of all the trouble, for after its removal she again presently became pregnant, going on to her full period.

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**S. Marx, M. D.:**

As to the treatment of *eclampsia*, it resolves itself into the question of prophylaxis and cure, both steps being of great importance as to the results to be obtained; and yet of the two, in view of the position of modern teaching, we must hold that the former is of greater and more vital importance than the latter. If prophylaxis be successful, curative measures never enter into the consideration of the case. In other words, the careful physician pins his faith so absolutely to prevention that the question of a cure becomes one of minor consideration. Of this prophylaxis I have many times said, "Eclampsia is as absolutely preventable as is puerperal sepsis." Nay, it is more so, since even among the best and most careful, sepsis will occasionally creep in. Not so with eclampsia, for if men would remember that regular examination of the urine should be made, and is as essential during the whole period of preg-

nancy as asepsis is during labor, fewer eclampsias would occur, and fewer women and children would be lost. Men depend too much upon the presence or absence of albuminuria in determining the condition of a pregnant woman. Even in the presence of constitutional symptoms, such as oedema, headache, etc., the physician rests satisfied so long as no albumen is present in the urine, and declares his patient safe, and yet, while temporizing in a position of false security, he is dealing with one of the most malignant and fatal conditions, in which there is uræmia without albuminuria, a condition that can well be denominated "urinæmia" for want of a better name.

The toxæmia of pregnancy is a complex condition, depending upon more than one factor. Whether this be due to the faulty elimination of urea, pure and simple, I am not prepared to state with absolute positiveness, but the danger signal, when the symptoms are evident, is always presented by a progressive diminution of the total amount of urea excreted.

Prophylaxis having failed because of the proper measures not having been undertaken to prevent the progress of the disease, we must attack the problem of the cure of these cases. Two factors must ever be borne in mind: one, a theoretic problem, for the reason that we are not to-day in a position to state with any degree of positiveness what underlying pathologic lesions are at the bottom of the trouble; therefore, we must assume that the great emunctories are at fault. To this end, three scavenger avenues must be the center of a very vigorous attack; the skin, the liver, and intestinal tract, and last, but not least, the functions of the kidneys must be stimulated to a marked degree. One favorable condition is recognized by all, namely, the surest sign of the return to health is evinced by the return of the urinary secretion; in other words, diuresis is our greatest safeguard as to the present health and future welfare of the patient.

It is scarcely necessary to say that the patient must have numerous watery movements every day. Not only does this keep the bowels clean, checks toxic absorption and acts on the liver, but it depletes the system of the poisons circulating in the blood. If the patient is unable to take medicines by mouth, I give either high enemata of a saturated solution of salines, or dram doses of the same hypodermatically.

To act upon the skin I know of nothing better than the hot steam bath, given in bed, or the hot full bath, gradually increasing the temperature of the water until it is as hot as can be borne. I allow the patient to remain in the bath half an hour or more, the tub being covered with heavy woollen blankets, thus giving a sort of vapor bath. The patient is lifted out, blanket and all, and placed in bed. An ice cap or cold cloths may be applied to the head to mitigate the unpleasant cerebral after-effects.

In order to influence the urinary secretion, it is essential that these patients should take only such food as is least irritating to the kidneys, yet assist in increasing diuresis, and readily assimilated, viz., milk, buttermilk, kumyss, matzoon, etc. If milk is given, it should be taken by the tablespoonful. A powerful diuretic and one pleasant to take is milk to which has been added a small quantity of sugar of milk. It is advisable that these patients drink as much water as possible to stimulate the skin and kidneys, preference being given to a mild saline or pure spring water. Rectal injections of a physiological salt solution, one to two pints, act exceedingly well as a direct urinary stimulant. If medicines are used, they should not act upon the kidney, which is occasionally inflamed under these conditions.

It is a fixed rule with me when, after a short time, the urea estimation shows no improvement, no matter what the other symptoms tell us, or what the condition of the patient may be, to empty the uterus at once.

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#### J. C. MacEvitt, M. D.:

For the last three years I have used *silk ligatures in the abdominal cavity* almost exclusively. Some three years ago we had so many unfortunate experiences with catgut that, while a firm believer in its efficacy, I changed off to silk, and my success has been such since that time that I confine myself almost exclusively to the use of silk.

At one time when the general surgeons at St. Mary's Hospital were having pus cases, it was recognized first by the internes that the cases on the gynecological side, in which silk

was used, were free from pus. That may be due to the fact that the catgut was not sterile. I think the fact that one can so thoroughly sterilize silk compensates for its slow absorability. You cannot always be sure of your catgut. If so why do we have so many modes of preparing catgut? It is still a question to this day as to the proper preparation of catgut, and until I can find some other grounds or some better reasons against its use than I have up to the present time, I shall continue to use silk. I use catgut for the tying of small vessels, but nearly all my intra-pelvic work is performed with fine silk, and my peritoneal cavity is always closed with fine silk.

I can only recall one case now where I have had any trouble, and that was a ligature that I removed from the wound within four weeks. A sinus formed three weeks after operation. When silk is found in a sinus it is looked upon as the cause of the trouble; the catgut may be absorbed, but we know not what harm it has performed before it disappears. Braided silk should not be used.

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Frank A. Higgins, M. D.:

Since the first of January I have seen and operated upon five cases of *placenta previa*. Two of these were of the partial or marginal variety, while three had complete placenta previa. All five of the mothers made excellent recoveries and without complications. All five of the infants were born dead or died soon after birth. One of the five possibly might have been saved under a different method of delivery, but in only one of the cases did the fetus before delivery appear to be in such a condition that any hope of its survival could be entertained. In three of the cases the patient was at full term, but in two of these the fetal heart could not be heard at any time, and whatever chance the third child might have had was deliberately sacrificed for the sake of the mother, her life being considered of much greater importance. The other two cases were hopelessly premature. Therefore in all the cases I proceeded with only one aim—that of making the operation absolutely safe for the mother, so far, of course, as it is ever possible to do so.

Of the two cases of partial placenta previa one was seen on

February 22 in the out-patient clinic of the Lying-in Hospital. There had been considerable hemorrhage for four days and a large hemorrhage of at least a quart before the patient sent for assistance, the bed being saturated and containing many clots. The hemorrhage was controlled for a number of hours by vaginal packing, and the patient's condition improved so far as possible. Later a small amount of ether was given, the hand was inserted into the vagina, the os then about the size of a quarter was dilated to admit two forefingers, enabling me to bring down a foot, assisted by the other hand through the abdominal wall. The foot was drawn outside the vagina and held firmly, exerting steady and moderate traction. The patient was allowed to come out of ether after the foot was secured, and delivery was accomplished in about an hour and a half, with no further loss of blood and practically no shock to the patient. The child was, of course, stillborn. The fetal heart was heard just before the operation, but on account of the mother's poor condition everything was done with her safety in view.

Of the three cases of complete placenta previa, one was seen with Dr. Duff, who first saw the case after she had been bleeding for ten hours. The vagina was packed, and the patient removed to the hospital. The os was about two inches dilated and completely covered with placenta; the fetal heart could not be heard, although carefully searched for several times. The patient's pulse was 124, and she had evidently lost considerable blood, yet she was in fair condition. I felt, however, that slow delivery would be better for her than rapid version and delivery, especially as there seemed to be no question but that the fetus was already dead. The placenta was perforated, a foot brought down, and steady traction made on the thigh. As the body appeared, the child was seen to make an attempt at respiration, so that delivery was immediately completed. The child could not be resuscitated, it was in a state of pallid asphyxia, probably from loss of blood, and made only a few spasmodic attempts at breathing. If I could have determined before operating that the fetus was living, possibly more rapid delivery might have saved this baby, but I do not think it probable, because of the amount of placenta separation.

I am perfectly aware that my experience with these recent cases can have only comparatively little effect toward the settlement ultimately of the best treatment for placenta previa, but to my mind they do help to clearly demonstrate the great safety to the mother of the slow delivery, after slight dilatation of the os, and the extraction of a foot.

I am also more than ever convinced of the comparative low maternal mortality, even in complete placenta previa, when the patient is taken in charge and receives proper treatment immediately after the first hemorrhage, and that the chief danger lies in repeated or continuous hemorrhages. The great objection to slow extraction is that it means the death of the fetus, but until we have some other expedient equally safe for the mother, and which promises better results for the infant, I shall continue to advocate and practice this method. Traction on the foot effectually prevents hemorrhage, and at the same time slowly dilates the os, and the body of the child gradually emerges from the vagina. The time for delivery in my cases after extraction of a foot was allowed to occupy from twenty minutes to an hour and a half.

I would not advocate slow delivery in every case. If the mother is in good condition and the fetus also, as indicated by the fetal heart-beat, full manual dilatation and rapid extraction should by all means be performed. But if the fetal heart cannot be heard, it is usually fair to assume that the child is not living, and the mother should be safeguarded in every possible way.

We have been inclined to believe that it is only the cases of complete placenta previa in which there is much danger to the mother. I desire to emphasize the fact that this is not so. Of these five cases the two with partial placenta previa were the ones in the most serious condition, not because of the situation of the placenta, but because of the neglect of the hemorrhage.

Perforating the placenta to do version I have found to be an easy matter, causes no maternal hemorrhage and very little to the fetus. The under surface of the placenta is divided into lobules with sulci running between, and the placenta is easily separated and perforated at the sulci. In my experience this is better than trying to separate the placenta, and going to one side of it.

As I have previously advocated packing to control hemorrhage, I would say a word more of caution against placing too much dependence upon it. Packing is of value mainly as a temporary expedient to control hemorrhage, to promote dilatation, or to gain time while getting ready for an operation, or before moving a patient. If properly and firmly applied it will control hemorrhage for a few hours, but not longer. I would also insist that the packing be inserted with the patient in Sims' position, as it cannot be properly applied with the patient in the lithotomy position. I have seen repeated failures of the packing to control hemorrhage when it has been put in through a bivalve speculum with the patient on her back.

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Stuart McGuire, M. D.:

Much has been written with reference to tubal pregnancy, but little attention has as yet been paid to *cornual pregnancy*.\* A recent mistake in diagnosis which led me to operate on a bifurcated uterus about to rupture from pregnancy in one of its horns has interested me in the subject, and I wish to report the case and briefly discuss the condition.

Mrs. S.: aged twenty-eight; married for eighteen months, with history of one miscarriage.—Patient began to menstruate at the usual age, and her periods were regular and natural. Her general health was good, and she had no reason to suspect that she had any uterine or other pelvic trouble. In March, 1902, she missed a period, and shortly afterward began to pass blood in small quantities at frequent intervals from the vagina. Three months later she was suddenly seized with severe pain in the lower right abdomen. The pain was characterized as cutting or tearing, was attended by nausea and faintness, and confined the patient to bed. The patient's regular medical attendant was sent for, who stated that he thought the trouble was tubal pregnancy, and advised an operation. Several days later the case was transferred to me.

I found the patient in bed, suffering with paroxysms of pain and passing blood from the vagina. The abdominal walls were rigid, but on making a bi-manual examination I suc-

\* Tri-State Medical Association of Virginia and the Carolinas.

ceeded in palpating a soft but elastic mass to the right of the cervix, which corresponded exactly in tactile impression and in anatomical location with cases of unruptured tubal pregnancy I had previously diagnosticated. I stated that I agreed with the opinion of my predecessor; that I thought the case was undoubtedly one of extra-uterine gestation, and I advised immediate operative intervention. The patient was moved to my private sanatorium, and as soon as the necessary preparations could be made the abdomen was opened.

The uterus I delivered through the wound was the queerest specimen I ever saw. But for the fact that as a boy I had dissected many cats and was familiar with the double-horned uterus found in the female of that animal, I would have been at a loss to recognize the condition with which I had to deal.

The uterus was cleft from fundus to cervix, the two diverging sides tapering to, and terminating in, the Fallopian tubes. The left horn was flaccid and empty, but the right was distended by a swelling until its walls were so thin that they were transparent. Evidently the case was one of cornual pregnancy, with imminent danger of rupture. In deciding what to do I realized I had three alternatives. First, I could return the uterus, suture the abdominal wound, and endeavor to produce an abortion. But this was deemed unsafe, as the uterus might not have sufficient contractile power to expel its contents, or if it did, would probably rupture its walls in the attempt. Second, I could incise the pregnant horn, turn out the embryo, and suture the incision as in a case of Cæsarean section, but this entailed danger of sepsis, and even if successful would leave the woman in a position to become pregnant again. Finally, I could do a complete hysterectomy, thereby not only relieving the present situation, but also preventing future complications. The last plan was adopted. The ovarian and uterine arteries were ligated on each side, the uterus and adnexæ removed, and the pelvic cavity drained by several strips of gauze carried through the vagina. Both of the extirpated ovaries were healthy, but I did not leave one in the abdomen, because I have never seen benefit from its supposed internal secretion to the symptoms of the precipitated menopause, and I have seen local trouble follow the practice, due to

degenerative changes in a sensitive organ deprived of its chief physiological function. To still further demonstrate my belief that a functionless organ is a dangerous inhabitant of the abdomen, I will state that I took advantage of the opportunity to remove the patient's appendix, although it looked extremely innocent and inoffensive.

The patient made a rapid and uneventful recovery and is now in perfect health.

My post-operative study of available literature in regard to cornual pregnancy has been unsatisfactory. What has been written is to be found either as practical points under descriptions of uterine malformations or as incidental allusions under the treatment of tubal gestation.

Cornual pregnancy is not an extra-uterine pregnancy, but a true uterine pregnancy which, by malformation of the uterus, has become pedunculated and walled off from the main uterine cavity. The malformation of the uterus is congenital and due to imperfect fetal development. The Fallopian tubes, uterus, and vagina are formed from two embryonal structures called the ducts of Muller. These ducts become fused first at their lower ends. Sometimes one duct fails to develop, so that the uterus becomes one-sided or one-horned—the uterus unicornis. Sometimes the ducts may unite only as far as the top of the vagina, thus two distinct uterine bodies resulting, the double uterus—uterus didelphys. Sometimes the ducts may unite externally to form one uterine body, but there is no fusion of the cavities, which open separately the uterus bicornis duplex.

Sometimes the ducts may unite to form a normal cervix, but the upper part of the body of the uterus is bifurcated and the two sides diverge sharply from each other, resulting in the two-horned uterus—the uterus bicornis unicollis.

Sometimes the ducts may unite throughout, but externally on the fundus there is a slight depression, demonstrating the imperfection of development and giving the organ the conventional heart shape—the uterus cordiformis.

Finally, the ducts may unite so that the uterus presents externally a normal appearance, but contains a septum which divides its cavity into two compartments—the uterus septus.

The result of impregnation of an imperfectly developed

uterus depends on the degree of malformation, and the site of implantation. Often full term gestation is impossible, no matter what the location of the embryo. Again, in an unequally developed uterus pregnancy in one horn would probably go to term, while in the other horn it would certainly terminate in abortion or rupture. Impregnation of the two horns at the same time or at different times is possible, leading to superfetation. Ross, of Brighton, reports a case in which a patient miscarried of twins and three months later was delivered of a healthy, full-term child. Careful examination showed the existence of a complete double uterus, each side of which had been impregnated. This woman had formerly given birth to six living children, and nothing remarkable had been observed at any labor.

Symptoms in cornual pregnancy are absent when the impregnated horn has sufficient capacity to accommodate the growing fetus. Symptoms are present, however, when pregnancy occurs in a horn of the uterus too rudimentary to fulfill the task imposed upon it. The symptoms consist of intermittent pain, due to the contraction of the muscular coats of the uterus; bleeding from the vagina, due to the detachment of the decidua in the unimpregnated side, and, finally, either abortion from discharge of the contents of the pregnant horn into the uterus, or intra-abdominal hemorrhage due to rupture of its overdistended walls.

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H. Kruetzman, M. D.:

Without and reserve whatsoever, I am opposed to the performance of *ventrofixation* or *ventrosuspension of the uterus*, for the following reasons:

1. The indications upon which the operations of ventrofixation and ventrosuspension of the uterus are performed are relative only, and not generally accepted.
2. As surgical procedures these operations, while highly satisfactory, create an unphysiologic condition.
3. The remote consequences of these operations are sometimes disastrous to the health and life of the subject, and even grave disturbance of the normal progress of gestation is sometimes observed.

**4. These operations are not indispensable.**

As far as the first objection, the validity of retroflexion of the uterus, is concerned, I, with many others, hold the opinion that a movable, healthy retroflexed uterus in healthy surroundings is of absolutely no significance as a cause of disease or of complaints. I know that slight affections of the uterus, adnexa, pelvic peritoneum, and intestines, coexisting with retroflexion of the uterus, are often overlooked. Frequently the retroflexion is a complication of the status, especially when the uterus is fixed or descended. The relation between retroflexion of the uterus and functional nervous disorders, such as hysteria, neurasthenia, hypochondria, general neuroses, has been the subject of many papers and discussions lately, and the opinion gains foothold more and more that such functional disorders of the nervous system are not dependent upon physiological functions of the female genital organs, nor upon slight pathologic alterations in this sphere.

The question naturally arises, then, Why treat even with an operation conditions which are considered insignificant? The answer is that, aside from the cases where retroflexion is a complication, treatment of the troflexed uterus, especially in nervous women, is simply a matter of suggestion, and an attempt to influence by moral effects a perfectly rational and legitimate procedure.

If it once has been suggested to a nervous woman that her "falling of the womb" is the cause of her troubles, it is useless to attempt a cure of the patient without resorting to treatment of the malposition of the uterus. Rectification of the malposition of the uterus does not mean restoration to health, and vice versa, and this complexity of possibilities is responsible to a great extent for the views as they are, erroneously, held yet by most physicians. But, with the prevailing conception of the severity of a retroposed uterus, it is imperative to treat this anomaly. If our object is to cure the retroflexion permanently, then I think operative measures are needed in most cases.

It is not by any means always the intention, nor is it always necessary, to attain a permanent rectification of the retroflexed uterus; palliative measures will suffice frequently, such as tampons, pessaries, etc. But if we wish to correct per-

manently, if we intend to make a radical cure of the malposition of the uterus, then only an operation can be depended upon. This wish does sometimes exist in virgins, in women who live far away from us; also the decision to permanently correct the position is certainly easily reached when some operation in the genital sphere is performed, such as curettage, plastic operations, etc. Any operation done for the rectification of the retroflexed uterus, whether fixed or movable, must be absolutely devoid of danger: this cannot possibly be said of ventrofixation or ventrosuspension.

Through these operations, no matter how they are performed, unphysiologic, unnatural pseudo-ligaments are made between the uterus and the abdominal wall. Such a condition of organs is not found in health in the abdomen. That this condition is not devoid of danger is shown by the report of a number of cases where intestinal obstruction following ventrofixation or suspension has taken place. I found reported seven such occurrences, all necessitating some grave operation, and some of them with fatal results.

Aside from this menace to health and life, every woman of child-bearing age who has ventrofixation or ventrosuspension performed on herself is in danger, in case she becomes pregnant, to encounter difficulties with her delivery. Many such cases of difficult labor, where ventrofixation or ventrosuspension had been done, have been reported; grave operations had to be performed, to the detriment of mother and child in not a few instances.

The operation of ventrofixation or ventrosuspension might possibly be justified if this was the only recourse we had to rectify this malposition, but such an assertion cannot by any means be maintained. I consider that these operations are absolutely superfluous; we can obtain exactly the same result, as far as the rectification of the uterus is concerned, through other operations, such as shortening of the round ligaments and vaginal fixation of the uterus. This latter certainly should never be performed in parous women, but in non-parous women, in women beyond the generative period, it gives excellent results.

In cases of movable retroflexion of the uterus never for a

moment should ventrofixation or ventrosuspension of the uterus be thought of; in fixed retroflexion, often through removal of the fixating cause, the uterus can be restored to its normal position without any further operative procedure, or the uterus can be made movable, and then at some future time the harmless operation of permanent rectification of the uterus can be done, if so desired.

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H. G. Nicks, M. D.:

The condition of *constipation*, so hurtful to the non-pregnant woman, is doubly so to the pregnant. The congestion, the displacements and inflammatory conditions of the uterus, so attendant upon this condition, and the source of so much discomfort in the non-pregnant, is much more to be dreaded in the pregnant. The bowels should be emptied regularly, and no more than twenty-four hours should elapse between each movement. This may be accomplished by, first, attention to diet. This should consist of digestible foods, preferably such as excite peristalsis by their chemical properties, rather than by their physical. Both are, however, useful. Vegetables furnish a large proportion of waste, and fruits, such as berries of all kinds, figs and grapes, contain indigestible seeds. Oranges, lemons, prunes, cherries, plums, peaches, pears and apples are laxative through chemical action. Their best effects are secured when taken between meals, a half hour or more before eating. The juice of one or two oranges taken when retiring at night will be found frequently effective. Laxatives should be given the preference over the active purgatives. The latter are, however, useful and may be given with advantage in suitable cases. Cascara Sagrada is probably the best and most used. It is a mistake, however, to give it in a single large dose, as is so frequently done. Better results are secured by smaller repeated doses.

Two principal reasons may be given why the bowels should receive attention. (a) Prolonged retention of feces allows of reabsorption of soluble toxic materials, with all its train of symptoms, headache, nausea, vomiting, causing intestinal stasis, and thus favoring intestinal fermentation, with its train of oppressive symptoms, flatulence tachycardia, and through

diaphragmatic pressure interfering with respiration, creating and maintaining a chain of disturbances, and directly aiding in the development of hemorrhoids. (b) The accumulation of feces in the sigmoid flexure accentuates the normal lateral displacement of the uterus and may, in extreme cases, even act as the exciting cause of abortion.

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H. D. Livingston, M. D.:

In dealing with the complete type of *placenta praevia* we are confronted by a condition which hardly justifies the adoption of the methods usual for the treatment of the marginal form. The risk of bleeding is much increased by its circumscribed attachment, and we are warranted in seeking a course which, if still heroic, would tend to obviate the dangers of severe hemorrhage. It is still a disputed point as to the advisability of entering the abdominal cavity, but recent investigation is inclined to indicate Porro's operation as offering many advantages over other methods heretofore pursued.

I beg to submit for approval a suggestion which, if feasible, should obviate the dangers attendant on placental separation, and also preclude the necessity for abdominal section. I refer to the ligation of the uterine arteries per vaginam and the exclusion of the main source of hemorrhage. Providing the vagina is sufficiently roomy and the cervix within reach, the operation should not present formidable difficulties, and in consideration of the high mortality in the central insertion, it would, if successful, extend a hope for better results in an affection which frequently calls in vain on all the resources at our command.

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K. C. McIlwraith, M. D.:

Briefly, I describe *septic abortions* to be those cases in which, to the ordinary unmistakable signs of pregnancy and abortion febrile symptoms are added.

The instruments needed are, two pairs of tenaculum forceps, and a Bozeman's intrauterine douche nozzle of large size. These should be sterilized by boiling and placed ready for use in a one per cent. lysol solution. The patient is anesthetized,

placed in the lithotomy position, and the vulva prepared by thoroughly scrubbing it with green soap and hot water, which is washed off with lysol solution, one per cent. The vagina is then scrubbed with green soap and the fingers, or a bit of cheese cloth, and douched out with lysol, one per cent. The uterus is then grasped by the left hand through the abdomen, to make counter-pressure, and the cervix is dilated, if necessary by the fingers of the right hand, as much of the right hand being introduced into the vagina as is necessary to allow the fingers to thoroughly explore the whole uterus. If the whole hand has to be introduced, the vaginal orifice must be gradually dilated by the fingers formed into a cone. I usually try to get the cervix sufficiently dilated to allow the passage of the first and second fingers together, though I have emptied a three-months pregnant uterus through a cervical canal that would only permit the passage of the forefinger and the tip of the second.

The fingers in the uterus are used to entirely separate the ovum from the uterine wall. The uterus is then anteverted by the hand on the abdomen, the fingers of the other hand being withdrawn from the uterus and passed into the anterior vaginal fornix. The fundus uteri can thus be squeezed between the inside and the outside hand, and its detached contents expressed into the vagina and withdrawn. The anterior and posterior lips of the cervix are then grasped with the tenaculum forceps, the cervix drawn close to the vulva, and the uterus copiously douched out through the Bozeman's douche with lysol solution, one per cent. Next, the uterus is snugly packed with iodoform gauze, a little of which is also left in the vagina. I prefer for this purpose gauze put up in the form of a roller bandage, two inches wide, of a strength of five to ten per cent.; and I use the Bozeman's douche nozzle as a packer. The gauze is removed the next morning.

This procedure, like all intrauterine manipulations, is frequently followed by a chill in a few hours. I have used it many times during the last five years, and it has never failed to give the best possible results. By the end of forty-eight hours the fever has always disappeared and the patient made an uninterrupted recovery.

I may perhaps be permitted to compare this form of treatment with the Flushing curette. This is a favorite method with many. It is easier than the method I advocate. At the Rotunda Hospital I saw a patient who had been curetted for abortion two months previously. She had suffered from hemorrhage at intervals ever since. The cervix was dilated, a finger introduced, and a considerable portion of the ovum found which had been left behind by the curette.

In hospital practice we frequently find portions of the ovum retained after it has been supposed to be removed by the curette. I remember one case in particular, which I saw in consultation about a year ago, which had been curretted. Almost the entire secundines were found attached to the fundus by a small pedicle, which the curette had missed.

We must remember, too, the danger of perforating the puerperal uterus with the curette, especially when it is softened by infection.

Finally, to be sure of emptying the uterus with a curette it is necessary to scrape the whole interior. That is never necessary, and in septic cases is very dangerous, as it opens up new avenues for infection.

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#### R. E. Fort, M. D.:

I will report a case of *Myomectomy*. The patient first menstruated at fifteen, married ten years, sterile. Had always menstruated regularly, and was in good health until January of last year, when she fell from a car and hurt her left side. Missed three menstrual periods; has suffered great pain in left side since; painful urination and defecation. January 30 she claims to have felt mass in left side.

When admitted to the hospital she had been confined to bed one week; great tenderness and pain over abdomen; exaggerated in left iliac fossa. Constipated, pulse 108, respiration 72, temperature 99.3.

#### Examination under anesthesia:

Inspection.—Irregular mass in left lower quadrant of abdomen, linea niger present, breast plump, secondary areola.

Palpation.—Serum expressed from breast; hard, irregular mass extending to costal margin in left axillary line, freely

movable laterally and downward; irregular mass in right lower quadrant of abdomen, extending to level of umbilicus, movable laterally: deep sulcus outlined between right and left masses.

Percussion.—Left lower quadrant dull, except over colon, left upper quadrant dull in posterior half, normal anteriorly. Right lower quadrant and right upper quadrant normal.

Auscultation.—Negative.

Digital Examination.—Cervix closed, long, soft, except upon posterior lip, where there was an apparent fibroid condition. No mass in pelvis, fundus of the uterus not palpable.

Diagnosis.—Multiple fibroid with pregnancy, or uterus bicornis with pregnancy.

Operation.—Abdomen opened May 6, which revealed a pregnant uterus at about three and a half months, with two sessile fibroids upon the anterior portion of the fundus. The uterus was grasped with hands and delivered through incision, the viscera being protected with flat gauze sponges, and uterus covered with hot sterile towels.

Enucleation of the smaller tumor (the size of an orange) was now accomplished by making elliptical incisions of peritoneal covering of tumor, separation of peritoneal flaps and separation of tumor from its uterine attachment. Considerable hemorrhage was present, which was controlled by deep mural silk sutures. The peritoneal flaps were closed with intestinal silk by continuous sutures. The larger tumor (the size of a baby's head) was enucleated in the same manner. The base was larger than anticipated, and in approximating the flaps it was found that approximation could not be accomplished, an area of uterine muscular fiber 2 1-2 by 1 1-4 inches broad being exposed. This area being on the anterior surface of the fundus, convinced me, if left exposed, fixation to the anterior abdominal parietes would take place, which would interfere with the ascent of the uterus during pregnancy, also with involution after delivery.

A bit of omentum was therefore amputated and grafted over the exposed surface. I might state here that the reason for omental amputation was the omentum was short and I feared enteroptosis when involution was complete. The abdomen was closed; operation consuming one hour with closure of in-

cision, which extended some two inches above umbilicus. Patient put to bed in good condition.

The usual post operative abdominal treatment was carried out and the patient made an uninterrupted recovery. Was allowed to sit up at the beginning of the fifth week. At the beginning of the sixth week some abdominal pains, apparently uterine, were exhibited, and she was put to bed and given morphia. These pains were only transient, however, and she was discharged on the beginning of the seventh week in good condition. Patient was observed during gestation, her condition remaining good. She went into labor at 5 A. M. on October 15, and after an uncomplicated and uneventful labor was delivered of a seven-and-a-half-pound girl at 12 M. of the same day. Uterine contraction was good, I might say unusually good. Mother and child both doing well at present time.

The features in the above which I regard worthy of especial notice are: 1. The preference of myomectomy to Porro's operation or total hysterectomy at all stages of pregnancy, especially before viability of the child; the former has a maternal mortality of nine per cent., the latter of twenty to thirty per cent. The former a fetal mortality of twenty-one per cent., the latter a complete destruction of fetus before viability and a large mortality afterwards. The former I regard as the acme of conservative surgery, the latter the extreme of radical surgery. 2. The careful handling of the uterus and its constant protection with hot towels.

◆ ◆

H. A. Royster, M. D.:

My experience with *extra-uterine pregnancy* has been proportionately out of the ordinary. As a hospital interne seven years ago, I saw five cases during my first month—an occurrence which emphasized to me their importance. During the few years that I have been operating, out of a total of nearly 260 abdominal sections, I have encountered 18 cases, representing various stages of the malady.

One of the conditions most often confounded with extra-uterine gestation is a pelvic abscess. In the absence of any suggestive history it is generally supposed that the abscess produces a higher temperature, with septic symptoms, and

that the feel of the mass is more fluctuating than elastic. I once heard two eminent authorities in gynecology disagree over a case of this nature, which was not settled until the operation proved that the lesser of the two lights was correct in his opinion. There is no end of instances to show that a pelvic abscess may exist without fever and that ectopic cases often run a decidedly febrile course.

I once mistook an acute hemorrhage of the ovary for ectopic gestation. A woman was brought in with symptoms of extreme collapse, hemorrhage, and the history of having been suddenly seized with severe abdominal pain, a few hours before. There was a mass on the left side. After she had rallied, the cul-de-sac was opened. There were found free clots in the abdomen and a large left ovary distended with blood. Pryor mentions three such cases and thinks that they offer additional explanation of so-called ovarian apoplexy.

It is not at all an uncommon error to confuse ectopic with *normal pregnancy*. Especially is this true, if the gravid uterus be retroverted or inclined laterally, or if the ovum develop in one corner, distending the womb on that side. Examination under an anesthetic usually settles the question; though if uncertainty still remains exploratory section is justified.

Time after time extra-uterine pregnancies are diagnosed as miscarriages. And this is due largely to one single cause, viz., the failure to examine. A careful exploration of the pelvis should be made in every case of suspected abortion, no matter what plan of treatment is to be followed or how simple the case appears. Unless this is done, an ectopic pregnancy will every now and then escape detection and the woman will drag out a weary length of suffering and become excessively anæmic or die from exhaustion before relief can come. Many such cases have been regarded as simple hemorrhages from retained secundines following abortion and curetted without benefit. In June, 1902, I operated on a case which illustrates this admirably. Mrs. H., age 25, mother of three children, had been curetted by me one year before, two months after child birth, to remove pieces of retained placenta. She recovered promptly and went to live in another place. While there she missed her menses for two months, March

and April, 1902 (and then began to have an intermittent flow of blood from the uterus with moderate pain at intervals. She was told that she was having a miscarriage. She returned to Raleigh and was admitted to my service at Rex Hospital. Her anaemia was pronounced. Pelvic examination revealed an enlargement on the left side high up and easily discernible even by abdominal palpation. The posterior cul-de-sac was not encroached upon. A probable diagnosis of extra-uterine gestation was made. On opening the abdomen a very few small clots were evident, and no fresh bleeding was seen. When the mass was brought up, it was found to be a tubal ectopic sac, which had in it a small opening through which the slow oozing had taken place. This was tied off along with both ovaries which were cystic and the uterus was suspended. The sac contained a well-formed fetus, more matured than the 2 months' amenorrhea would indicate, showing that it was undoubtedly growing during the period of gradual rupture. The patient had an uneventful convalescence and is now in better health than she has been for many years.

There is evidence to indicate that a full grown ectopic gestation may simulate a normal intra-uterine pregnancy at term. On one occasion I was sorely puzzled by a case of this character, and it was after much perplexity that a diagnosis of abdominal pregnancy was made, though the history was certainly suggestive. M. L. P., colored, age 28, who had been instrumentally delivered of one child several years before, failed to menstruate in September, 1900. Three months later she had an attack of pain in the abdomen lasting a few days; but her menses never reappeared, and she went on with what she believed to be a normal pregnancy until May, 1901, her ninth month. At that time, spurious labor came on,—intermittent pains for 24 hours with sudden and complete cessation of these and of the fetal movements. It was on my return to the city in July, 1901, before I saw the patient with her physician, who kindly referred her to me. She was removed to the hospital.

An examination under ether was necessary before an intra-uterine pregnancy could be excluded. The abdomen was found to be symmetrically enlarged by a mass which was the

size of a pregnant uterus at term; the cervix was pushed forward and the presenting part was chiefly posterior. A uterus of normal size was then felt in front of the mass, and a reasonable suspicion of its true nature entertained. At the operation, after a long incision the tumor was delivered without difficulty, there being fortunately no adhesions except a few slight ones to the uterus itself. The pedicle which sprang from the right broad ligament was quickly ligated in 3 sections and the entire sac taken away. Its contents were a fully developed child in an extreme state of maceration. The most noteworthy fact was that the right Fallopian tube was intact and that the right ovary was not to be found—*prima facie* proof of ovarian pregnancy. However, this rare distinction is not claimed for the case, since the fetal sac was disposed of before a thorough pathological examination of it could be made. The left ovary contained a cyst as large as the average orange and with its tube was also removed. A perfect recovery was the result.

Finally, every abdominal operator sooner or later stumbles upon cases of ectopic pregnancy when he is least expecting them. They may complicate other pelvic derangements and, as we have seen, may exist without giving signs of their presence. Especially are they found, when not looking for them, in places where pioneer gynecological work is being done, where cases seldom come for first-hand relief, but only after desperately holding out to the last before giving up to surgical interference.

\* \* \*

Lewis H. Adler, Jr., M. D.:

I wish to call attention to the fact that *polypoid growths in children* are of much more frequent occurrence than the profession generally believe, and to emphasize the point that errors of diagnosis are often made in considering such protrusions, when they occur at the anus, as cases of prolapsus.

This error in diagnosis is only possible, I believe, through a failure to make a careful visual and digital examination of the parts concerned.

I have seen almost twice as many children affected with a polypus as with a prolapsus, except we count those instances

of prolapse caused by the presence of a polypoid growth, which by dragging upon the gut-wall, has produced, a prolapsed condition of the same.

The principal varieties of polypi found in the rectum are the benign adenoma, the fibroma and the angioma—named in the order of their relative frequency of occurrence—the first form mentioned being found relatively three times as often as the other varieties combined.

While polypoid growths cannot be said to be a very common affection, they do occur, in children especially, with much greater frequency than is generally supposed. Many of the cases undergo a spontaneous cure without coming under the surgeon's notice. In size, these growths vary from that of a pea to that of a walnut or a butternut. Much larger polypi are encountered, but they are exceptional. The shape is usually that of a berry, or if larger, pyriform, resembling a pear.

The surface commonly is granular and irregularly lobulated. It is attached to the wall of the intestine by a narrow but often a lengthy pedicle of mucous membrane, which contains the vessels for the supply of the tumor. When protruded these growths may be livid from congestion, or even gangrenous, but usually they are of a bright red. Generally they occur singly, but they may be found multiple.

Intussusception is not an uncommon complication, the result of the presence of a polyp in the higher portions of the intestine; and, similarly, in the lower part of the rectum a prolapse not infrequently occurs, the result of the dragging process to which the coats of the bowel are more or less constantly subjected, under the circumstances.

Generally a polypus situated in the upper rectal tract is not attended by any marked symptoms; when, however, the attachment is low down its presence gives rise to a sensation of fulness and distress in the anal and sacral regions; a desire to have several evacuations during the day exists, and the movements are attended by a feeling of incompleteness, as though the fecal matter had not all been passed; and, finally, there is apt to be more or less discharge of a glairy mucus and, at frequent intervals, of blood. In children this bleeding

from the rectum is of considerable diagnostic importance, for it nearly always points to the presence of a polypus.

The diagnosis of polypus is not difficult, the history of the case, as well as the symptoms, taken in conjunction with a careful examination of the patient, will always enable one to ascertain readily the exact nature of the trouble. The differential diagnosis of this disease is not hard, for the only other diseases in this region with which it could by any possibility be confounded are hemorrhoids and prolapses. An examination after an enema will suffice to clear away all doubts.

The only plan to be recommended in the treatment of a polypus is the removal of the growth. It is not safe either to cut or tear polypi, as troublesome hemorrhage may ensue, and the subsequent attempt to place a ligature upon the bleeding vessel is by no means an easy task. The clamp and cautery may be employed for the removal of these growths and the method is a very satisfactory one, but the procedure is rather formidable, especially to the patient. The ligature can be, and often is, used, but the simplest method, however, is to grasp the pedicle close to its base with hemostatic forceps, and with another pair applied to the balance of the pedicle to gently twist the uppermost one until it comes away. In this manner there is no danger of hemorrhage, no pain and no necessity for the patient resting more than the first twenty-four hours.

In this connection, and as a final remark, it might be well to state that should a polypus be of considerable size, or if its pedicle should be sessile—one having a short and broad base—then a ligature or the clamp and cautery should be employed.

I think that the clamp and cautery possess many advantages over any other method, mainly because it seals the wound and avoids danger of infection.

## Book Reviews.

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**THE COMPOSITE MAN, AS COMPREHENDED IN FOURTEEN ANATOMICAL IMPERSONATIONS.** By E. H. PRATT, A. M., M. D., LL. D. Third edition. Chicago: The New Age Publishing House.

In whatever capacity, either as lecturer, writer, or surgeon, Dr. Pratt always obtains and holds the attention. He invariably has something to say or do, and invariably says it or does it quite a little different from others, hence our recognition of that very elusive yet powerful factor in a man's success—personality.

That quality is certainly here present in a very marked degree, as no man but Pratt would think of writing a work on anatomy from the same viewpoint as that employed in his "Composite Man." It is unique, extremely interesting, and can be read in connection with other anatomical studies. Radical departures are instituted by the chapters on the conscious and sub-conscious man. As this is the third edition of this work its popularity is manifest.

**SURGICAL DISEASES OF THE KIDNEYS AND URETER, INCLUDING INJURIES, MALFORMATIONS, AND MISPLACEMENTS.** By HENRY MORRIS, M. A., M. B. London, F. R. C. S., etc. With two colored plates and upwards of two hundred engravings. In two volumes. Cassell & Company, Limited, London and New York. American Publishers, W. T. Keener & Co., Chicago.

In 1880, four years before the appearance of the author's manual on the "Surgical Diseases of the Kidney," with the exception of a rather incomplete work by G. Simon, there had not been twenty articles written on the subject of renal surgery. Then followed the short manual of Morris, in which particular emphasis was laid upon the necessity for surgical intervention in case of stone in the kidney, and which at the time was viewed as an ultra-radical procedure. The writer's influence, however, soon became manifest, and in ten years the amount of material contributed on the subject of kidney surgery was considerable. Using the "Manual as a nucleus, the author began a study of all the contributions from the Transactions of the various societies and every available medical

Journal in the English and European languages for articles relating to renal and ureteral surgery. This material, with the results of the author's twenty-years' personal experience, constitutes the present contribution to surgical science. To include everything of value concerning ætiology, pathology, symptomatology, and treatment which has been authentically established, has been the aim of the author. Part II, on the Surgical Cases of the Ureter, is new, and represents the development of a department of surgery scarce ten years old. Full space is given to the achievements of American surgeons in this relation, and their contributions are considerable. The work possesses inestimable value to the surgeon, and there can be no doubt that its reception by the profession will be as cordial as its author could desire.

A TEXT-BOOK OF OBSTETRICS. By HENRY J. GARRIGUES, A. M., M. D. With five hundred and four illustrations. Philadelphia and London: J. B. Lippencott Company, 1902.

It is the author's intention to offer a text-book and not a book of reference, one that will show a connected presentation of the science and art of obstetrics largely from his own experience, and to afford to students who wish to become acquainted with this branch of science, or practitioners who wish to study cases under their care, a direct, practical manual. Those who remember Garrigues' work as a pioneer in aseptic midwifery can best judge the value of his ripe experience and scientific deductions of so many years. Recently many works on obstetrics have been published, most of them possessing much of scientific value, but Garrigues' shows the work of a man who has had actual experience with every phase of the subject.

THE ELEMENTS OF PATHOLOGICAL ANATOMY AND HISTOLOGY FOR STUDENTS. By WALTER SYDNEY LAZARUS-BARLOW, B. A., B. C., M. D., etc. Philadelphia: P. Blakiston's Son & Co., 1903.

This is an elementary text-book for students in which the author has endeavored to give an insight into the main types of pathological changes rather than a description of sub-varieties. The illustrations, which are very excellent, were drawn under the supervision of the author by a non-medical

artist, who sketched what he saw and not what the specimen should be. This is of advantage to the student, for he finds reproduced what he actually sees in the field of his microscope, and not semi-diagrammatic drawings. This is also true of the use of photography in microscopical drawings, because the interpretation of photomicrographs needs special training not possessed by the elementary student. The plan pursued makes this a very valuable aid in the study of pathology.

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## *Translations.*

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### HERMAPHRODITISM; SEX DETERMINED BY OVARIOTOMY.

Unterberger (*Monats. f. Geb. u. Gyn.*) reports a case where a patient was admitted into hospital with a big abdominal tumor. She was over fourteen years of age, and had marked hypospadias, the clitoris being as big as a thumb. The labia looked like a divided scrotum, each the seat of hernia, and between them a raphé ran from the root of the clitoris to the anus. At the middle point of the raphé was the meatus; there was no vagina. Show had once been seen about a year previous to examination; afterwards frequent irregular hypogastric pains occurred. Indications of internal organs could be detected on rectal exploration. The left mamma was more developed than the right. The patient was a very big girl with powerful limbs, large bones, and a relatively small pelvis. The sex was not quite certain. The tumor felt like an ovarian sarcoma; it proved to be so at the operation. It had developed in the left ovary; the tube was long and well fimbriated. The right tube was shorter but bore normal fimbriae; the right ovary was small. The uterus was ill-developed, flat, and soft, as usual in such cases. There was a faint indication of an os externum; the vagina was very rudimentary. The patient was clearly a female.

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### PRIMARY CHORION-EPITHELIOMA OF VAGINA.

Hübl (*Centralbl. f. Gynäk.*) publishes full notes of a somewhat important case of a form of deciduoma malignum. His patient, under treatment in February last, was then thirty-

six years old. She had been through three complete pregnancies followed by an abortion at the third month, then another pregnancy to term, August, 1899. In June, 1900, a vesicular mole was removed by operation. In December, 1901, she was delivered of a macerated child over  $4\frac{3}{4}$  lbs. in weight; seven weeks later hemorrhage set in, and at the end of three weeks was so severe that the parts were examined. The patient was anæmic and distinctly cachectic. A tumor as big as a walnut was detected in the vagina posteriorly and inferiorly, the mucous membrane was perforated and bled, there was also a bleeding ulcerated point on the tumor. The uterine mucosa and the rest of the uterus and appendages were normal. The vaginal tumor was freely excised and sutures applied to the seat of excision. The tumor was made up of syncitium and cells of Langhan's layer in the midst of hematoma. Ten days after the operation the wound had healed well, but bleeding soon set in, and on the twentieth day several deposits had appeared; they were spreading all over the vagina. At this stage Hübl's report was published. The case agrees with another described by Peters, where a primary decidioma of the vagina proved as malignant as is a uterine growth of the same kind. Schauta has implied that vaginal decidioma is not essentially malignant. Hübl remarks that Schauta's opinion was based on three cases recorded by Schmit and Schlangenhauser, but all were operated upon very early, and in one which Hübl examined there was a hematoma entirely surrounding the new growth, whilst in his own case the new growth had spread beyond the hematoma.

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#### DELIVERY OF PATIENT DYING FROM MENINGITIS; CHILD SAVED.

Arzac and Lafond (Rev. Mens. de Gyn., Obstet., et Paed. de Bord.) report the case of a woman, aged twenty-one, admitted on April 29, 1902, into Lefour's materniy. A brother had recently suffered from meningitis. The girl was pregnant, close to term. At the fifth month of the pregnancy she contracted syphilis; a hard sore was still present on one labium majus, and roseola, mucous patches, and alopecia had developed. The patient had been under no treatment. For about a fortnight she had suffered from violent headaches, but she had kept at her work until a rigor occurred on April 28, followed by mental derangement. After admission the worst symptoms of acute cerebral meningitis set in. By May 2 the patient was in a dying condition, and completely com-

atose. The fetal heart was audible. The patient was placed in the obstetrical position, and the cervix dilated manually; as the membranes were ruptured a considerable amount of liquor amnii came away. A foot prolapsed, but extraction of the after-coming head was impracticable. Forceps had to be applied, and the child was delivered. It was in a state of suspended animation owing to coils of the cord constricting its neck, but was easily revived; it weighed over five pounds. There was no evidence of syphilis. The placenta was large, and free from naked-eye appearances indicating disease. It was delivered manually as hemorrhage had set in; hot injections and ergotin were used. A few hours later the patient died. All the appearances seen in sporadic cases of meningitis were discovered. Pus lay under the arachnoid both at the vertex and the base. The reporters believed that the cerebral disease was due to syphilis; mercurial treatment had been adopted after admission to the maternity, but clearly, they admitted, too late to allow of benefit or to aid in diagnosis. Fieux recently delivered artificially a woman of a live infant when she was sinking from cerebral disease. She died forty-eight hours later, and a large abscess was discovered in the brain. Lafour considered that had post-mortem Cæsarean section been attempted in Arzec and Lafond's case the fetus would have been certainly lost.

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#### OVARIAN TUMOR AFTER VAGINAL PANHYSTERECTOMY.

Littauer (Centralbl. f. Gynäk.) demonstrated at the June meeting of the Leipzig Obstetrical Society an ovarian tumor which he had removed three-quarters of a year after a vaginal panhysterectomy. It was of the "size of a child's fist," and contained numerous cavities, five of which were big enough to lodge a cherry. They were filled with thickened blood. Olshausen and others have noticed similar appearances, which they attribute to disturbance of circulation owing to ligature of the branches of the ovarian vessels close to the uterine cornu.

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#### THE PHYSIOLOGICAL CLOSURE OF THE UMBILICAL ARTERY AT BIRTH.

In a paper on this subject (Arch. f. d. ges. Physiol.) Bucura records a series of observations made on the human cord, and also on dogs and rabbits. He concludes that the chief factor

in the automatic closure of the arteries is associated with the anatomical distribution of the muscle fibres. Inside the strong circular coat lie longitudinal muscle fibres, arranged in localized patches. In a section of the umbilical artery of a fetus which has died in utero these fibres can be seen lying between the tunica intima and the circular muscle, but not forming a uniform layer round the circumference of the vessel. When a living fetus is born and the cord is subjected to a change of temperature and mechanical stimulus, owing to the contraction of these bundles of longitudinal fibers, swellings are raised, which project into the lumen of the artery and effectually occlude it. These nodules may be seen on opening the artery after birth, and are found along its whole length, and even in the branches into which it divides on the placenta. The hemorrhage which sometimes occurs after the slipping of an imperfect ligature when the child has been placed in a warm bed is due to the removal of both mechanical and thermal stimulation. The paper is illustrated by representations of sections of the mammalian arteries in the unborn and in the new-born.

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#### INTESTINAL PREGNANCY—CONSERVATIVE OPERATION.

Wimmer (*Zentralbl. f. Gyn.*) operated on a woman, aged thirty-six, who had once been pregnant, nine years previously. The last period occurred on February 6, 1902, after a delay of eight days, and lasted for a fortnight, much longer than usual. On the second day (February 8) the patient felt ill on rising, and fainted. When she revived she felt severe hypogastric pain, but was not conspicuously pale. She was kept at rest for several days. There seemed to be tenseness in the right iliac fossa, but bimanual palpation was impracticable owing to the pain. On March 20 moderate hemorrhage set in for ten days. The patient was not admitted into hospital until April 18. The uterus lay in the middle of the pelvis and was enlarged; an oval, firm tumor lay on its right side, and external to it the ovary could be felt. The round ligament could not be defined. At the operation the right uterine cornu and adjacent part of the tube were found to form the tumor, which was as big as a goose's egg. The right round ligament was attached a little to the inner side of the outermost limits of the tumor, two-thirds of which lay entirely internal to that band. The wall of the tumor, clearly a fetal sac, had yielded at the part most distant from the uterus. The sac was full of brownish adherent clot. The sac was enucleated from the uterus, with-

out the normal cavity being opened, and removed with the tube and ovary. The uterine wound was closed in two layers. The contents of the sac were a tubal mole with an embryo one-half inch in length. The ovum was attached to the inner pole of the sac, which lay within the uterus walls. Thus the tube was no doubt involved secondarily. Chrobak, in a discussion on this case, asked if the uterus were unusually long without being very broad, as seems to be the rule in this rare variety of ectopic pregnancy, but Wimmer replied that the lengthening was confined to the right side.

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#### WOUND OF URETER IN VAGINAL OPERATIONS.

Von Mars (*Monats. f. Geb. u. Gyn.*) operated in a case of advanced extra-uterine pregnancy and wounded a ureter. The duct was narrow below and dilated above the wound. The operator trimmed the divided ends and united them, but without success, so he passed a ligature round the ureter and tied it with intent to bring about hydronephrosis and subsequent atrophy of the kidney involved in the accident. Yet the ligature failed to hold; the fistula was then touched with caustic. To the surprise of the operator, the fistula closed and the duct, instead of being strictured, resumed its functions. The patient made water normally, without incontinence, and when the cystoscope was used urine was observed to enter the bladder through both ureteral orifices.

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#### PRIMARY NON-INFLAMMATORY HYDROSALPINX.

Rio Branco and Descomps (*Bull. et Mem. de la Soc. Anat. de Paris*) report an instance of cystic dilatation of the tube which was clinically a tumor. There was no evidence of any kind pointing to inflammatory pelvic disease; no sign whatever of salpingitis. The patient suffered for some time from symptoms of pressure in the rectum and bladder, associated with a tumor of the size of two fists to the left of the uterus and another on the opposite side as big as a fetal head. For three years the patient had been subject to occasional excessive menstruation. The uterus was pushed to the left and upward against the symphysis by the right and smaller tumor. The left tumor lay entirely in the abdomen, reaching to the level of the umbilicus. Bilateral ovarian cystic disease was diagnosed. The abdomen was opened, and the tumors proved to be large cystic dilatations of the Fallopian tubes. The ovaries appeared perfectly healthy to the naked eye, and were therefore not removed.

# THE HOMEOPATHIC JOURNAL OF OBSTETRICS, Gynecology and Pediatrics.

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EDITOR, WM. FRANCIS HONAN, M. D.,  
Sherman Square Hotel, New York.

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## PARTURIENT INJURIES OF THE VULVO-VAGINAL TRACT AND THEIR IMMEDIATE REPAIR.\*

BY W. E. GREEN, M. D.

There is no other position in which the physician can be placed where his opportunities for doing good or harm equals that of the obstetrician. The successful practitioner in this department of medical science should possess all the knowledge and skill of the experienced physician, and the courage, resource, and dexterity of the trained surgeon. In fact, here he is often called upon to act knowingly and promptly without a moment's warning, and if he is not equal to the occasion a human life may be unnecessarily sacrificed. The accoucheur should not only be adept in the art of obstetrics, but he should be well versed in surgical methods, otherwise he cannot attain that high degree of excellence in his work that his clientèle have a right to expect. It is a fact to be remembered by every aspiring young practitioner of midwifery, that the very first case of confinement he encounters may be one of

\* Read before the Arkansas State Medical Association.

complexity, requiring the highest degree of skill in its management.

Lacerations of the Vulva.—These are usually superficial and occur at the commissure, along the inner side of the labia minora, parallel with their free borders, and sometimes a rent will exist about the meatus and clitoris; in the latter case the venous bleeding may be profuse, and at times, serious. This is owing to the free communication of the pelvic veins and the absence of valves.

Laceration of the Perineum. The parturient canal at its outlet is limited by two narrow openings; the rima pudendi and the sphincter vaginae. The inner one, the narrower, is formed by muscular structures, while the outer is composed of subcutaneous fat and skin or mucous membrane. These are the points where perineal lacerations begin. A divulsion of either may take place and the other escape; but usually a rupture involves them both. In laceration of the outer ring alone, the rent, of variable depths, runs from the inner ring downwards and backwards toward the anus, including the mucous membrane, skin and subcutaneous fat. In some instances I have seen a circular separation of the mucous membrane just within the vulva, and the tissues everted, turned out for fully two-thirds of the way around the orifice, sometimes the rent has extended downward to the anus, making a deep pocket in which the five fingers of the hand could be inserted, the skin not being broken. These lacerations do not usually involve the muscular structures, consequently do not greatly impair the integrity of the perineum. They may however, occur in conjunction with all forms and degree of lacerations. In fact but few of the superficial tears that do not extend into the muscular tissues are important as regards future evil results.

Ruptures at or through the inner ring are usually the most serious and far-reaching in their consequences. If deep, they involve the levator ani muscle with its deep fasciae. These tears may be superficial or deep; where they extend through into the rectum they are called complete, otherwise they are designated incomplete. The rupture may

be central or it may run off to one or the other side, most frequently on the right. I have in two instances seen them run down to the sphincter ani muscle, there deflect laterally, extending half way round the anus, separating the transversus perinei and levator ani muscles from the sphincter ani, leaving the latter intact. I have seen one case in which a central lesion occurred; the head penetrated the perineum without cleaving either the commissure or sphincter ani. At times the laceration may be submucous, the muscular structures being severed and the mucous membrane left uninjured. Again I have observed deep perineal tears, where the skin was not broken, even the commissure remaining intact. A complete tear permanently severs the anal ring and deprives the patient of sphincteral continence, consequently faeces and flatus escape involuntarily, a condition that renders the subject pitiable indeed.

These deep lacerations of the perineum weaken the support of the pelvic structures and invite progressive changes, which in time disturb the physiological function of all the pelvic organs, and engender, in many cases, the most serious consequences to the general health of the patient. Among the local injuries superinduced by perineal lacerations, may be enumerated deformities incident to retraction of tissues and cicatrization, atrophy of structures, subinvolution and prolapsus of vagina and uterus, stretching and relaxation of uterine ligaments, both recto and cystocele, and last, but not least, venous stagnation.

Laceration of the vagina.—These usually occur in the lateral sulci. They are sometimes very deep, extending entirely through the muscular into the perivaginal connective tissue, permitting masses of fat to protrude into the vagina, and opening up favorable channels for widespread infection. Tears are frequently seen in the anterior portion of the vagina, while usually longitudinal, they may radiate in any direction; these give rise occasionally to severe bleeding. The upper end of the vagina is at times the seat of laceration. While the direction is usually transverse, they may extend around the circumference; sometimes these, in conjunction

with a laceration of the cervix, involve the uterine artery, and severe hemorrhage ensues.

These rents in the vagina, especially those occurring in the lateral sulci, when deep, involving all the vaginal structures, are largely responsible for the extremely large, baggy vaginae that we sometimes meet with.

In this résumé, I have not mentioned a single injury that I have not met with in actual practice and repaired, many of them repeatedly.

After the confinement is completed I make a careful ocular inspection of the perineum and vagina, opening it up well in order to ascertain if an injury has been sustained, its character and extent. Neither a superficial nor a tactile examination will answer, for in the disturbed condition of the parts, unless a most careful search is made, a serious lesion might be overlooked. However, a trained obstetrician will in almost every case recognize that a laceration has taken place at the moment of its occurrence.

Not long since, when delivering a child, I was quite sure I felt the perineum give way, but when I made an inspection of it I could discover no break in the skin whatever. I remarked to the nurse, "You see how perfect this is?" She expressed great satisfaction at the condition. I then said, "We will examine inside of the vagina." Upon doing so, I found there a deep rent that completely severed the perineal muscles.

If I detect a laceration, it matters not as to the magnitude, I proceed to repair it. If it is only a rent of the superficial structures, mucous membrane, I sew it up; by doing so the parts are not only restored to their normal anatomical relations, but suffering is abridged, and the opportunities for the entrance of pathogenic infection materially lessened.

The frequency of perineal lacerations cannot be accurately computed. It is estimated by different authors at about twenty-five to thirty per cent. in primipara, and five to ten per cent in multipara. I believe myself, that it occurs to a greater or less degree in fully seventy-five per cent. of first births. I have been most careful in my examinations, there-

fore I speak from a large personal experience. I know that there are many physicians, with large practice, who claim a small number of puerperal injuries, in fact, some claim to have had none at all in their entire obstetrical experience. In reply to such asseverations I will say, that while I feel sorry for those doctors, I more deeply pity their patients. They either do not make examinations of their cases, mis-state facts, or do not know a laceration when they see it.

I have performed many hundreds of secondary perineographies, and but few of them were done on subjects whom I had myself delivered, for I have always repaired the injury in my patients immediately; therefore I am forced to the conclusion that some physicians have had these cases, and either failed to recognize the lesion, or neglected to correct it.

The inquiry is often made as to the results of primary operations. I think that perfect recovery, if the work is properly done, will follow in almost every case. I will say ninety per cent. at least.

I carry in my obstetrical bag, besides the regular obstetrical instruments, one razor, two pairs of scissors (one sharp pointed, curved on the flat), one needle holder, two hemostats, one tissue forcep, pair vaginal retractors, assorted needles, Nos. 1, 2, and 3 cat-gut, No. 14 silk ligature, gauze, sponges, towels, bottle bichloride tablets, chloroform and ether, Kelly pad, and surgeon's aprons.

If I find that a rupture to any part of the parturient canal has been sustained, I immediately set about to repair it. I first administer to the patient one teaspoonful of Squibb's fluid extract of ergot, and if the pulse seems materially weakened, I give also 1-30 of a grain of strychnine hypodermically. This is done to insure strong contraction of the uterus; otherwise the flow of blood will constantly obstruct the field of operation, and there is always great liability of hemorrhage from the relaxing influence of the anæsthetic. These remedies should have at least one hour to act. All preparation for the work is now made with as much care as if a serious surgical operation was to be performed. In truth it is one of far-

reaching consequence to the patient, and its success depends much upon the exactness with which it is executed.

Slight tears may be repaired with the patient lying in the bed, and without an anæsthetic. The parts are more or less benumbed from the over-distension and pressure, therefore but little pain is inflicted by the manipulations. It is usually better, however, to place the patient on the table, especially if an anæsthetic is required.

The operation may be performed at any time between one and six hours after the confinement; on general principles, however, the earlier, after thorough uterine contractions have been obtained, the better. I usually do the work at once, within thirty to sixty minutes.

Having first ascertained by visual inspection that an injury has been sustained, I proceed to prepare for the operation for its correction. If it is to be a severe one, I call another physician to administer chloroform, this being the anæsthetic I generally use. However, I frequently depend upon my nurse for this (I employ a trained nurse in almost all my obstetrical work). Sometimes when skilled help cannot be obtained, the husband, a relative, or friend is intrusted with this part of the program; when this is the case, great vigilance is required of the accoucher, lest too much of the lethal drug is administered.

The kitchen table is usually brought into requisition for the patient to lie upon, then a smaller one, if possible, is secured for the instruments. A douche bag is filled with hot water (105), and hung within easy reach. A wash-bowl for sponges, and one for the hands, are prepared. If these are not at hand, a dish-pan or a crock will answer the purpose. Everything being in readiness, the subject is anæsthetized, and transferred to the table, and placed in the lithotomy position. The pudendum and perineum are now shaven and thoroughly scrubbed, all clots removed from the vagina, after which it is douched and packed either with sponges or gauze, in order to prevent the field of operation being obstructed with blood. Either labia may be pierced with a silk guy-rope, which is placed in the hands of the assistants, to be used as retractors. If there

is a lack of help, the ligature may be made to transfix the skin on the buttocks, so as to draw aside the labia, and tied; these act as retractors and keep the vulva patent. Now with the scissors and forceps, the wounded surfaces are trimmed of all the jagged and devitalized tissue, and made clean cut as possible. I consider this a most important feature of the operative procedure, to insure success. This having been accomplished, all the rents in the vagina are closed by two rows of continuous No. 2 cat-gut sutures, the first deep or buried, that brings together the muscular structures and faciae; the second superficial, accurately coaptating the mucous membrane covering in the first row. This method insures restoration of like parts, and saves the deeper tissue from danger of infection. Lacерations of the vulva are likewise closed by a running suture of No. 1 cat-gut. In closing the perineal rupture much ingenuity and care is sometimes required to properly restore it. If the tear extends above the perineal body, the vaginal part of the wound should be repaired as heretofore described; the stitches being introduced transversely to the vaginal axis, beginning at the upper part of the rent, and working downward until the muscular structures of the perineum are reached, then the deep suture is dropped, and only the mucous membrane is closed down to the posterior commissure; in doing this, care must be taken that the edges of the mucous membrane are not inverted (I sometimes make, to prevent this, a submucous stitch). Now, the muscular structures of the perineal body are united with No. 3 cat-gut interrupted sutures. A long curved needle is introduced just beneath the skin on the left side, and made to take a deep hold in the muscular structures, as it sweeps around the rent, emerging at about the same point on the opposite side. These sutures, three or four in number, as may be necessary to accurately close the wound, run longitudinally with the vaginal axis. They are drawn pretty tight, securely tied and cut short. These stitches are now covered in by coaptating the skin over them with interrupted sutures of No. 1 or 2 cat-gut. There is no need of introducing sustaining or tension sutures of either silk or silk-worm; they are superfluous and inflict needless pain, as

they cut through the sensitive, swollen tissue. Nor is it required that the patient's knees be bandaged together.

After the sutures have all been placed and the parts cleansed, the sponges are removed from the vagina. Then a pledget of gauze, several folds as broad as two fingers, is inserted into the vagina well back into the cul-de-sac, for the purpose of drainage, and a pad applied to the vulva, and held in position by a T bandage. This should be changed frequently when soiled, but the drainage must be left in for twenty-four hours, when it should be removed, and a hot bichloride douche, 1 to 2000 given. The douche should be repeated every three to twelve hours, according to the odor of the lochia. Any indication of sepsis calls for a more frequent repetition of the douching. Great care should be observed in administering these. If not properly done they had better be omitted entirely. Under no circumstances should a bag that had been used for rectal enemata, be utilized for this purpose unless it has first been sterilized, preferably by boiling. The bladder should be catheterized every six to eight hours for the first three days; after that the urine may be allowed to pass at the time of douching. The catheter should be used with great aseptic care. It should always be sterilized, and the meatus rendered aseptic before it is passed.

There will always be some pyrexia following extensive operating on the perineum or vagina, but the temperature, unless suppuration occurs, will seldom go above 100. The superficial stitches will drop off by the fifth day, and the deeper ones will be absorbed at the expiration of a week. The pain and soreness will rapidly subside when the stitches disappear.

If from any cause, septic endometritis supervenes, and it becomes necessary to irrigate or curette the womb, the integrity of the perineum may be preserved by introducing a heavy silk suture through and through the perineum at the commissure, taking a deep hold on either side, and tightly tied. This should be removed when the work is finished.

The female genital organs are very vascular, therefore are favorable to recovery after repair.

A perineum closed in this way will give almost universally satisfactory results, and the recovery will be attended with a minimum of suffering. There are no stitches that will cut deep gashes in the tissues, and inflict severe pain in their removal, and leave unsightly scars.

## THE TREATMENT OF PUERPERAL INFECTION.

BY HUDSON D. BISHOP, M. D.

In spite of all that has been written upon the subject of the etiology and prophylaxis of puerperal infection, it is by no means a rare occurrence for a consultant to meet well-marked cases during the lying-in, and the mortality lists show that puerperal infection is responsible for almost as many deaths in private work as before the era of antisepsis and asepsis. This is certainly a lamentable fact, and is due, not to lack of knowledge as to the cause of the trouble, but to carelessness in not properly safe-guarding the patient from wound infection.

There is no doubt but that our present ideas of the etiology and prophylaxis of puerperal infection are for the most part correct and little can be added to them. If the chain of asepsis is complete, we need have no fear of an infection, but it is the breaks in the chain, on the part of the physician and nurse which permit the occurrence of trouble.

It cannot be said, however, that we have positive knowledge of the means of treatment of a puerperal infection, or that what knowledge we do have is widely disseminated among the profession. While there is little need of further discussion in society papers of means of prophylaxis, there is, it seems to me, great need of more general knowledge regarding treatment. My paper, therefore, is devoted chiefly to a consideration of the curative treatment of puerperal infection, and little will be said regarding prophylactic treatment.

I wish to preface my remarks regarding treatment by calling attention to the importance of a knowledge of surgical pathology, and surgical technique in obstetrical work. I believe that the greatest obstacle to the adoption of a successful prophylactic technique in obstetric work has been that physicians in general practice have been unable to develop a proper appreciation of surgical cleanliness. The same conception of surgical cleanliness is required in obstetric work as in abdominal surgery, and unless the physician knows how to secure and maintain it, his record will be marred by cases of infection.

The same conditions hold in the treatment of puerperal infection. Puerperal infection differs in no respect from any other wound infection, and requires the same methods of diagnosis and treatment, in fact, there is no other form of wound infection that requires as prompt diagnosis and radical treatment.

I therefore believe that obstetric practice requires a thorough knowledge of methods of surgical diagnosis and treatment, in fact, that obstetrics should be considered a branch of surgery, and when the time comes that it is so considered by the profession and the laity as well, more care will be taken in prophylaxis, and what is of equal importance—obstetric practice will be better paid.

**Diagnosis.**—Much of the trouble in the management of puerperal infection is due to the fact that the condition does not receive early recognition. The surgeon watches the constitutional symptoms, and is guided by them in his treatment, but in an obstetric case the practice is altogether too common to adopt an expectant plan of treatment when the temperature curve goes up to 100° F., on the second, third or fourth day. Instead of this, it should be the rule that if a patient who has been doing well for twenty-four hours after delivery, has a rise of temperature of 100° F., immediate steps should be taken to rule out or combat an infection. Other causes for the constitutional symptoms may be found and removed, but if an infection is the cause, its early recognition and treatment may save further trouble.

For purposes of treatment the first step in the diagnosis is to determine the kind of infection to be dealt with, whether saphrophytic, that due to putrefactive organisms which are growing and developing in dead organic matter, or parasitic, that due to organisms which have entered or will enter the general blood current. In well-advanced cases this determination can be made by the objective symptoms—if of the putrid variety, the lochial discharge is foul and mixed with débris; if of the pyogenic variety, there is no odor, but in the majority of cases the vaginal and cervical wounds will be found covered with gray coagulated lymph. The determination, however,

should be made by early bacteriological examination of the lochial discharge by Doderlein's or Williams' method. This is essentially as follows: The patient is placed in Sims's position, the womb exposed with a suitable speculum, and brought down with a vulsellum forceps. The vagina is irrigated with sterile saline solution, and the lochial discharge wiped away from the cervix with sterile cotton. A sterile glass tube, ten inches long and slightly curved at one end is then introduced within the uterus. Uterine lochia is withdrawn into the tube by means of suction from a bulb or glass syringe. After removing the tube from the uterus, its ends are sealed with wax, and it is taken to the laboratory, where cultures are made from its contents.

If the infection is sapremic, putrid or saprophytic organisms will be obtained. If the infection is septic the cultures will show growth of pyogenic organisms, probably the streptococci. This information regarding the character of the infection is positive, and the treatment of one form will be entirely different from the treatment of the other.

At the time of securing the specimen of uterine lochia it is good practice to introduce the sterile finger within the uterus, and determine by the sense of touch whether loose masses of putrid material are present, and if present to remove them. Examination should also be made to determine the presence of any parametritic inflammation. Following this examination the uterine cavity is irrigated with sterile water.

Treatment.—I wish to speak of only one point in prophylactic treatment, namely, the importance of sewing every tear of the *vaginal* mucous membrane. It is, of course, assumed that all tears of the perineum will be repaired, but it is common practice to leave small tears of the anterior vaginal wall and the lateral sulci to heal by granulation. This is a serious mistake, and often in cases of mild infection these tears are found to be infected, while a repaired perineum is uninfected at first. It is my practice to sew these tears while waiting for the delivery of the placenta, and also to introduce the sutures for the perineum. Examination and repair of the cervix should not

be made immediately after labor, except in cases where a hemorrhage requires it to determine the source.

As has been said above, the kind of treatment for a puerperal infection depends entirely upon the results of the bacteriological examination of the uterine lochia.

If the organisms are found to be saprophytic, the principal object of the treatment is to remove the putrid material from the uterus as quickly as possible. The combating of the septic intoxication resulting from the absorption of toxins is a secondary matter, as frequently these symptoms of septic intoxication require no special treatment after their cause is removed.

The question of instrumental curettage should be decided entirely by the condition of the endometrium. If there is decomposing débris within the uterine cavity, effort should be made to remove it by means of the aseptic finger, aided by irrigations of sterile water, and only when this method is a failure should the blunt and sharp curette be used.

Curettage, either with the aseptic finger or with instruments, should always be done under surgical anæsthesia. Without it thoroughness is impossible. It is a good plan to begin the anæsthesia with ethyl chloride, and in many cases it will be sufficient for all that is necessary to be done under the strictest asepsis, and the operator should not consider his work finished until he has satisfied himself by means of digital exploration that the uterine cavity is smooth, and free from débris. Once curettage is thoroughly done, it should not be repeated.

In well-advanced cases of putrid infection where the uterus is soft and boggy, and which do not yield to a thorough curettage, I have found that continuous intrauterine irrigation with sterile salt solution for twelve to twenty-four hours has had a marked action in restoring a healthy condition. In such cases, also, where there was a putrid endometritis involving the entire endometrium, I have used potassium permanganate irrigations, 1-1000, and have found them an excellent means of controlling the putrefaction. The breaking down and removal of the débris can be hastened very materially by swabbing the endometrium with pure carbolic acid or a ten-per-cent. solution of nitrate of silver. If there is faulty contraction of the uterus

—and there is most always such a condition, fl. ex. ergot should be given to secure firm contraction, thereby occluding the lymphatics of the uterine wall, and thus preventing the absorption of saprophytic toxins.

I do not believe in packing the uterus in putrid endometritis. No obstacle should be placed to the free drainage of the uterine cavity, and gauze, no matter how loosely placed in the cervical canal, will act as a plug. The same objection does not apply to loose gauze in the vagina to act by capillary attraction in carrying the discharges to the vulvar pad. I believe, though, that such packing is unnecessary, and subjects the patient to needless manipulation. Vaginal douches of sterile water, or weak permanganate of potash solution should be given as often as every six hours if there is much odor.

The constitutional treatment of a sapremic infection is the same as for septicæmia, and will be considered under that head. If, instead of of putrefactive organisms, the bacteriological examination of the uterine lochia shows the presence of pyogenic bacteria, no local treatment should be given, but the most energetic constitutional treatment should be at once instituted. This statement applies only to those cases of septicæmia arising from uncomplicated septic endometritis. Suitable surgical treatment must be instituted for any extension of the pyogenic inflammation outside of the uterus.

I believe that it is the neglect of thorough constitutional treatment in cases of puerperal septicæmia that leads to fatalities. Nature, in the majority of cases, will be able to overcome the invasion of infectious micro-organisms provided the resisting power of the body is stimulated. This stimulation must be systematically planned and thoroughly executed.

One of the most reliable means of increasing the resisting power of the body is the administration of alcohol. It is a clinical fact often noted in surgical practice, that septic patients can take larger quantities of alcohol than normal individuals without experiencing its usual physiological effect. I give it in amounts corresponding to the degree of infection. Patients with a morning temperature of 102° F. can easily take eight ounces or more of whisky in twenty-four hours.

Strychnia sulphate, in doses of 1-30 gr. every four hours will stimulate the resisting power, and I give it thus. It is best given with whisky.

Food and drink are essential elements of the constitutional treatment. The food should be predominately tissue-forming, and should be given in a partially predigested form up to the assimilative capacity of the alimentary tract. Milk, beef-juice, and egg-albumen can be given in a variety of ways at three-hour intervals throughout the twenty-four hours. The digestive and assimilative functions of the stomach and intestines will be better and longer retained if all water that is taken is hot, and I always give six ounces of hot water every three hours or more, if there is thirst. With this amount of fluid the functional activity of the kidneys and skin is increased, and more waste products are eliminated. Hot fomentations applied to the abdomen are of great benefit in promoting absorption of food, and if there is an albuminuria I use a hot abdominal pack.

The use of normal saline infusion in the therapeutics of septicæmia has passed beyond the experimental stage, as is shown by the increasing number of articles upon the subject. There is no doubt but that its use increases the phagocytic powers of the organism and its use is, therefore, imperative in all forms of septicæmia, no matter what the infecting organism may be. Erklenz (*Therapie der Gegenwart*, Jan., 1903) has reported experiments which show that "animals treated by salt infusion after otherwise fatal septic intoxication, survived and their organs showed little trace of the intoxication to which the control animals all succumbed with severe alterations in their organs." All clinical observations thus far reported confirm the results of these experiments, and these clinical reports are so uniform in their results that the question arises whether, perhaps, the real curative treatment of all septic conditions has not been discovered. I have used saline infusions in the treatment of puerperal septicæmia since 1900. In sapremic infections I have used it when the constitutional symptoms did not abate within twenty-four hours after the cleansing of the uterus. In septicæmic cases I have used it from the first onset of the infection.

Of the three methods of use of saline infusion, enteroclysis, hyperdermoclysis, and intravenous, the two last are preferable. Enteroclysis is inaccurate as to the amount of fluid actually taken into the circulation, and is, moreover, often distressing to the patient. Another important point is that small amounts of the fluid injected at regular and shorter intervals are more efficacious than larger amounts at longer intervals. It is a question in my mind whether the saline solution acts by "washing" the blood, as is claimed by some writers. It seems more reasonable to suppose that it acts by supplying a vital element to the blood. I have had better results from the use of saline solution since I have used an isotonic solution, after the formula of Locke. (Sodium chloride, oz.  $2\frac{1}{2}$ , calcium chloride, gr.  $3\frac{3}{4}$ , potassium chloride, gr.  $1\frac{1}{2}$  to a quart of water.)

The technique which I follow for hypodermoclysis is as follows: An aspirating needle of medium size is attached to a rubber tube, the other end of which is attached to the outlet of a graduated aspirator bottle. This bottle is filled with the saline solution at a temperature of  $115^{\circ}$  F., or the fluid allowed to run until the tube and needle are filled with the solution. The site chosen for the injection—preferably the breasts and the anterior midaxillary line is made surgically clean, and the needle inserted. The aspirating bottle is elevated from one to three feet above the patient, depending upon the resistance of the tissues to the entrance of the fluid. During the injection the needle is moved about in the arc of three-fourths of a circle, and gentle massage of the parts is carried on to promote absorption, and if the injection is made slowly—no faster than it is absorbed, there will be no soreness following it. After the injection the needle wound is sealed with collodion.

If no marked result is obtained from hypodermoclysis within twenty-four hours, or if exceptionally prompt action is desired, I resort to intravenous infusions through the median basilic vein. I have found that one or two intravenous infusions of from 500 to 750 cc. have brought about a reaction so that hypodermoclysis was sufficient thereafter. My experience has been that after intravenous infusions of the above amounts a crisis is reached within a few minutes to one-half hour. The patient

always experiences a violent chill with strong, rapid pulse, which becomes weaker towards the end of the chill. The breathing is short and rapid, the patient complains of dyspnoea, and all the symptoms are those of collapse. The temperature, however, rises rapidly until the patient begins to sweat, and then makes a sudden drop. I had one patient in which the temperature rose from 103.4 to 107.5° F., and then dropped to 99° F.

My experience with saline infusion has been such that I firmly believe that in it we have an effectual method of treatment for all of the ordinary cases of septicæmia arising during the puerperal period. I do not know what its effect would be in the form described as acutest septicæmia, but I believe that its immediate use would be beneficial.

The treatment of puerperal infection after the inflammation has passed beyond the endometrium, opens up a wide field of operations concerning the efficacy of which there is a great deal of dispute.

If at the primary examination of the uterine cavity a pus tube or pelvic abscess of found, the question at once arises whether or not an exploratory laparotomy should be made. I believe that it should not unless intra-abdominal rupture with septic peritonitis has taken place, because the operative treatment for these conditions can be carried out with greater safety after the puerperium. If the pregnancy has been complicated with a fibroid or ovarian tumor, and these become infected, hysterectomy or ovariectomy are imperative. Hysterectomy, either abdominal or vaginal, is not warranted for a simple putrid endometritis with septicæmia, but when aseptic peritonitis arises from it, or from any of the above conditions, something more than constitutional treatment has to be resorted to. The question of the character of the operation is a difficult one to decide. I believe that the treatment adopted should be conservative, and the earlier a diagnosis of septic peritonitis is made the more conservative the treatment can be. If the diagnosis is made early, a cul-de-sac operation will give excellent results. If the peritonitis has extended beyond the pelvic peritoneum general irrigation of the peritoneal cavity with normal salt

solution should be considered. In this connection I wish to mention a case of septic peritonitis, reported by Burtenshaw (*Jour. A. M. A.*, April 11, 1903). Septic peritonitis had followed an abortion, and bacteriological examination of the blood and uterine lochia showed a streptococcic infection. Her first treatment was thorough cleansing of the uterine cavity, together with constitutional treatment and saline infusions by hypodermoclysis, enteroclysis, and venesection with intravenous transfusion of normal saline solution. There was some improvement under this treatment, but it was not permanent. Evidences of septic peritonitis were very marked, the functional activity of the kidneys was slight, and the patient was rapidly passing into a state of coma. He contemplated a cul-de-sac operation, but the "grave condition of the patient, especially the almost complete cessation of kidney function, appeared to preclude all hope of success attending the procedure." In place of this he decided upon abdominal irrigation. A two-inch incision was made in the abdominal wall midway between the umbilicus and the pubic, and through this an irrigating tube was inserted as far as possible into the pelvis. A normal saline solution, after the formula of Locke, was permitted to flow uninterruptedly into the abdomen for one hour, the patient being turned upon her side and abdomen in order to facilitate the exit of the fluid. The fluid returned was at first of a yellowish tinge, and contained flakes of lymph, but later it came away perfectly clear. The increased activity of the kidneys was immediate, and twenty minutes after the irrigation was begun ten ounces of urine of a specific gravity of 1024 were drawn from the bladder. Forty ounces, the last being of a specific gravity of 1013, were withdrawn within the hour. During the next thirty-six hours the irrigation was repeated six times, after which the wound was closed. The total amount of urine passed in forty-eight hours was two hundred and fifty ounces. The improvement in the general condition of the patient was continuous, the temperature falling two degrees after the first irrigation, and it did not rise above this point at any time after the treatment was begun. The patient recovered with none of the usual sequelæ of peritonitis.

During the course of a puerperal septicæmia great care should be taken to immediately recognize the occurrence of secondary foci of infection. The constitutional symptoms will show that something is wrong, and effort should be made to locate the trouble. If there is a phlebitis of the veins in the pelvis or lower limb, the usual treatment of rest and elevation should be at once substituted. I have found the liberal use of antiphlogistine or similar preparations a valuable aid in the

treatment. If the location of the thrombosed vein can be made out, removal of the vein is indicated. If there is a septic arthritis, arthrotomy should be made as soon as the symptoms present themselves. If there is a periostitis, osteomyelitis, or cellulitis, the earlier the foci of infection is laid open the better. I have had but one case of hepatitis in the course of a septicæmia, and I treated it by incision as soon as pus was diagnosed by aspiration. In every case of puerperal septicæmia the patient's friends should be informed of the possibility of a septic endocarditis with its dangers.

This leads me to speak of another point, namely, the importance of an honest statement of the diagnosis to the family. I have known of a prominent physician whose patient, according to his diagnosis, had la grippe for one or two weeks after labor; following this she had rheumatic fever for two weeks, but she died so suddenly that he did not have time to make a new diagnosis. Such deception is by no means uncommon, and while it is usually impossible for the physician to deceive the patient's friends throughout the run of a bad case of infection, yet in the milder cases it is a common practice to attribute the trouble to some other cause. Every case of puerperal infection should be used as an example to impress the laity with the importance of surgical cleanliness, and of the care and skill which is necessary on the part of both physician and nurse to secure it.

In conclusion I wish to mention a few internal remedies which I have found of service.

*Veratrum viride*, given in physiological doses, is a valuable remedy in the beginning of an infection, and at times during the course of a septicæmia when secondary infection occurs.

*Bromine*, gts. 5, in four ounces of water, of which a teaspoonful is given every two hours, has seemed to have a good effect in combating the infection.

*Arsenicum 6x*, and *Chin. sulph. 2x*, will be indicated in most cases of septicæmia.

The most important point in the choosing of the remedy is a consideration of the constitutional condition of the patient which existed before the patient developed a septicæmia. It is a well-known fact, and one that is used by some against the theories of the etiology of puerperal infection, that of two patients exposed to the same dangers of infection, the one may develop a severe infection while the other will escape. The one had the power to overcome the invading organisms, while the other had not. The cause of this failure should be determined, if possible, in every case, and the remedy chosen upon this basis. In one case it may be faulty assimilation and poor nutrition, in another it may be faulty elimination. These points should be the foundation of the medicinal treatment.

## SALPINGITIS, PYO-SALPINX, AND PELVIC ABSCESS.

BY J. EMMONS BRIGGS, M. D.

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While a great majority of the diseases which woman is heir to may be said to arise independently of any influence which the patient or her family may exert or have power to prevent we must come to an exactly opposite opinion when we consider the inflammatory lesions of the fallopian tubes.

It may be and often is through no fault of the woman that she suffers from pelvic inflammation, yet in such cases responsibility for her condition exists. We are not of the opinion that salpingitis arises spontaneously as is the case in appendicitis or cholelithiasis, but are rather inclined to that opposite opinion that salpingitis, pyo-salpinx, and pelvic abscess are due to very definite and well-understood infections, and these of such a character that they may be considered as preventable.

Inflammatory conditions of the fallopian tubes are likely to follow infection by the gonococcus or any of the other pus-producing micro-organisms. These usually gain their entrance to the tubes through direct infection of the genital tract, starting usually as a vaginitis, the inflammation extends by continuity to the endometrium, and later leads to involvement of the tubes.

Little do we hear nowadays of the intricate pathology of cellulitis, parametritis, and perimetritis—diseases which are now rarely spoken of at all, as they are the manifest results of an inflammation of the tubes. In rare cases they follow infection from an abrasion in the vaginal vault.

While the text-books of a decade or so ago made free use of the term idiopathic, in order to convey to the reader's mind the spontaneous origin of disease, it is now considered as a high-sounding phrase which expresses only the ignorance of the profession as to the etiology of disease.

Diseases do not arise idiopathically. There is a direct cause of each which in the future we may hope to be able to deter-

mine. In salpingitis, pyo-salpinx, and pelvic abscess the cause has been definitely ascertained, and we are now positive that we can account for these diseases only by infection. It is, therefore, evident that in order to induce a salpingitis a septic condition must exist, usually in the endometrium, and we must conclude that any septic endometritis may be followed by inflammation of the tubes.

The diseases capable of producing a septic endometritis, and by continuity involving the tubes are: I. Gonorrhea, II. Sepsis following miscarriage or mature labor, III. Criminal abortion, IV. Unclean instrumentation in gynecological practice.

1. Gonorrhea.—Gonorrhea is a disease the severity of which has only recently been appreciated. In the male the most frequent and serious complications are lymphangitis, peri-urethral abscess, Cowperitis, prostatitis, vesiculitis, epidermitis, stricture of the urethra, cystitis, dilatation and infection of the ureters, urethritis, pyelo-nephritis, and the conversion of the cortex into a large abscess cavity. The complications common to both male and female are cystitis, ureteritis, and uretero-pyelitis, gonorrhreal conjunctivitis, and gonorrhreal rheumatism. In those peculiar to women we have in addition to those last-named vulvitis, inflammation and abscess formations in the vulvo-vaginal glands, purulent endometritis, salpingitis, pyo-salpinx, pelvic abscess, also local or general peritonitis, which may end in fatality, or necessitate a capital operation in order to prevent a life of chronic invalidism.

Gonorrhea is, therefore, no trifling malady in either sex. In the male the sequelæ, although as serious, are not as likely to occur; in other words, the very serious complications of gonorrhea occur far more frequently in women, and they not only jeopardize the woman's life, but, if she survive, frequently make her sterile and a chronic invalid suffering from pain in the pelvis, due to the chronic inflammation and its attendant adhesions binding the uterus, ovaries, tubes, and adjacent peritoneum into masses of chronically inflamed tissue. Nor is this all, for often the chronic inflammation gives place to acute exacerbation when there is a re-formation of pus, and the patient suffers intensely from all the symptoms of an acute in-

flammation—intense pain, sensitiveness to pressure, rise in temperature and pulse, chills and general malaise. The formation of pus may be considerable, so that the distended tube may rupture or the contents may find an exit through the fimbriated extremity of the tube or may penetrate the walls of the tubal abscess, and disseminate itself directly among the intestines, causing a general peritonitis, but far more frequently the inflammatory process causes extensive adhesions to form between the tubes and adjacent intestines and peritoneum, which effectually walls off the general peritoneal cavity.

With the increase in the accumulation of pus, fluctuation may be detected in the vaginal vault; this, however, is rare in my experience, while a boggy swelling filling in the vault, and extending in either or both ovarian regions is more common.

That the gonococcus is a true pus producer there is at present very little doubt. The clinical evidence strongly supports this opinion. Gonococci have been the only germs discovered in at least one case of pyo-salpinx and one case of gonorrhreal ophthalmia, which I have attended during the past year.

While the gonococcus may appear alone in rare instances of pyo-salpinx we meet far more often with the mixed or secondary infections combining with the gonococcus the more active pus producers—the streptococcus or staphylococcus. Where the gonococci are the only bacteriological elements the inflammatory manifestations are more chronic, and the symptoms less violent than in the mixed or secondary infection.

II. Sepsis following miscarriage or mature labor.—Under this heading we shall confine ourselves to the infection caused by the staphylococcus and streptococcus pyogenes, and shall have very little to say regarding the acute attack of puerperal septicæmia, confining our attention more strictly to the local manifestation under consideration, viz., the effect upon the fallopian tubes.

The very acute symptoms of puerperal septicæmia arise from the entrance of the before-named micro-organisms into the circulation, where they rapidly multiply, resulting in an acute form of progressive septicæmia. A less fatal and more controllable condition is that of sapræmia—the result of the ab-

sorption of the products of putrefaction, as illustrated in the putrescent placenta. The patient may succumb to this form of infection, if interference is too long delayed, but the emptying of the products of decomposition will result in cure, if done before a fatal dose of the poisonous ptomaine has been absorbed. These conditions are easy to differentiate theoretically and bacteriologically, but clinically more difficult. The presence of a foul odor to the profuse local discharge, and the occurrence of the attack toward the end of the first week will point strongly toward a sapræmia. It is highly improbable that in sapræmia saprophytic infection occurs alone; the pus-producers are likely to be implanted resulting in a true sepsis. Fortunately these septic conditions rarely result in a fatal progressive septicæmia, the rule being a purulent endometritis, which extends by a continuity of tissue into the fallopian tubes. Here the virulence of the pyogenic bacteria, and the amount of resistance which the tissues offer will determine the subsequent history of the infection, whether the result is to be a catarrhal or purulent salpingitis, whether there is to follow a pyo-salpinx or a pelvic abscess. If a salpingitis, there will result a sealing of the fimbriated extremities of the fallopian tube or tubes (the disease being generally bilateral), with, in all probability, the formation of adhesions, and the binding down of ovaries and tubes usually in the most dependent portions of the pelvic cavity, and they will be found by pelvic examination, or at the time of operation, firmly adherent to the posterior aspect of the broad ligament and uterus in the cul-de-sac of Douglass.

Probably this rather uniform location of the ovaries, tubes, and pelvic inflammatory conditions is the result of the gravitation of the abnormally congested and inflamed and heavy structures to the most dependent position in the pelvic cavity, where they become adherent. A life of chronic invalidism ensues, pelvic pain and sensitiveness in the ovarian region being the rule and sterility is assured if both fimbriated extremities are sealed. A condition more serious than this has, in my experience, followed a salpingitis of one side with a healthy tube and ovary of the other, for here pregnancy may occur, and be followed by puerperal sepsis originating from the diseased tube.

An active or even quiescent gonorrhea occurring in pregnancy is a potent factor for mischief during the puerperal state.

Miscarriages are more likely to be followed by tubal involvement than delivery at term, which can be accounted for by the fact that there is frequently retention of the membranes which undergo septic or putrescent changes, which, in turn, are followed by septic endometritis and tubal inflammation.

III. Criminal abortion.—I am confident that there is no cause of tubal disease more serious or far-reaching in its evil effects than the deplorably common practice of induced abortion. Everything which goes with this nefarious practice is conducive to infection. The principle is bad, and the methods which are employed in carrying out the practice are equally so. The woman who finds herself pregnant, and is unwilling to assume her prerogative of motherhood, looks about for some means of getting rid of the products of conception. Knowing, if she be an intelligent woman, that it is useless for her to apply to her family physician she seeks the advice of some friend of experience, and usually employs certain drugs which are recommended. As it happens, no drug possesses specific ecbolic properties. They produce abortion, if at all, more by the general disturbance of the system than by any specific action on the womb itself. They greatly deplete the system, rarely accomplishing the purpose for which they are taken. After experimenting with drugs, and trying general measures, such as violent and excessive exercise, etc., all to no avail, she places herself in the hands of the abortionist, and in her greatly depleted condition and perturbation, she has fulfilled all the requirements predisposing to infection, except the implantation of the septic micro-organisms. This the abortionist, by unclean instrumentation and unscientific treatment, supplies.

Then follows the septic developments which so frequently result in death, but more often terminate in tubal involvement and invalidism. Could women but know the frightful risks they run, the chances they take when they assent to this procedure, they might be deterred therefrom through fear of consequences, if their moral sense were ever so calloused.

Would space permit, or the value of this paper be enhanced,

I could cite case after case of women who have lost their lives by this means, and many more who are reaping the reward of their folly by a life of suffering and humiliation.

Criminal abortion, in the writer's opinion, stands next to gonorrhea as the most frequent cause of tubal disease, and far ahead in ratio of mortality.

IV. Unclean instrumentation in gynecological practice.—To this should be added the carelessness in the use of the vaginal douche. I have purposely avoided the citation of cases because of the length of paper which would result, but I cannot refrain from illustrating the danger from the douche by referring to two cases which came under my care about four years ago.

A young lady, aged twenty-two, of excellent family, and of spotless reputation, who for a long time had had a slight leucorrhæal discharge was advised by a girl friend to take douches. She loaned her her own syringe, and instructed her in its use. Shortly thereafter my patient developed a very profuse leucorrhæa, and on November 19, 1898, two and a half weeks later, I operated upon her for an exceedingly acute pyosalpinx, which had ruptured into the general peritoneal cavity. She died on the day following the operation.

My patient's mother used this same syringe once, if I remember correctly, following a menstrual period, and soon thereafter began to have pelvic pain, and upon examination I was astonished to find an acute pyosalpinx. I operated immediately upon her, on November 26, 1898, seven days after the operation upon her daughter, making a double tube ovariotomy. Both tubes were distended with pus. I have no doubt whatever but that both mother and daughter were infected by the use of the syringe which was loaned them by a friend who had suffered from an exceedingly virulent vaginal discharge.

The profession is now generally awakened to the dangers of conveying disease in ordinary office gynecological work, yet ideas differ as to the precautionary measures necessary to insure immunity. I wonder what proportion of the physicians who make vaginal examinations and local treatments in the office insist upon the boiling of the speculum, dressing forceps and sound (this latter instrument I trust they almost never

use), before every case. Nothing short of this will insure against the possibility of conveying disease. Against the uterine sound I have a special antipathy. When a student in medicine I was instructed to use the instrument in nearly every examination to determine the position of the uterus, and by feeling to ascertain the condition within the womb. Of late years I venture to say that I do not use this instrument once a year for the purpose of examination or diagnosis; yet frequently employ it during operative procedure, where there can be no objection to its use. It is an instrument capable of infinite damage. To pass it through an unsterilized region into the cavity of the uterus is to implant therein the germs of disease, and if they do not take root there it is due to good fortune rather than good judgment.

Surgery of the fallopian tubes.—Only a few years ago the feeling of the profession was strongly toward very radical operating in diseases of the uterus and adnexa. Five years ago the vaginal route was chosen for nearly all pelvic inflammatory diseases, and in cases of salpingitis the question then in vogue was, "What is the value of the uterus after the ovaries and tubes have been removed?" It is probably no more valuable this year than it was five years ago, yet very few operators will sacrifice it unless it is itself badly diseased. The ovaries were sacrificed if cystic, now they are resected, and, if possible, some portion preserved if no larger than a pea. A piece of the fallopian tube is saved, if possible, even after the sacrifice of both ovaries in the hope that menstruation will be continued. This tendency toward conservatism is truly commendable, but may be overdone to the extent of a complete failure as regards the cure of the patient. Last year a young woman who had had a previous abdominal operation in which her appendix and one ovary were removed was operated upon a second time for a cystic ovary, and a very tiny piece of ovarian tissue was left. We complimented ourselves upon the fact that a few years ago this young lady would doubtless have been unsexed. She made a good recovery from the operation, but in less than six months returned to the hospital with a cyst as large as a hen's egg, which took its origin from the very

small piece of ovary which was conserved. Five years ago this young woman would have had one laparotomy instead of three.

Five years ago I attempted to save a tube the extremities of which had become sealed by an inflammatory process. A little fluid escaped from the tube, which was not thought at the time to be septic. The patient developed a septic peritonitis, and died in a week's time. An autopsy showed a general peritonitis, which took its origin from the tube which I had attempted preferred, and as soon as the abdomen is opened mops of gauze the slough of the vermiform appendix, such as I have washed from the cavity of an appendicinal abscess.

I would not wish to convey the impression that I am not a firm believer in conservative treatment of the tubes and ovaries; the experiences cited demonstrate that I am. They illustrate, also, that it is not an easy question to determine the cases where it is policy to attempt to save or wisdom to remove.

In operation for salpingitis the abdominal route is to be preferred, because it allows a thorough investigation of the pathology, and permits us to deal with the pelvic organs in the most conservative manner. In a chronic salpingitis following a pyosalpinx with a retroflexion of the uterus, and prolapsus of ovaries and tubes, all of which have become firmly fixed by adhesive inflammation, the hand is introduced, and a line of cleavage is usually easily discovered, and the adherent tubes and ovaries can be separated from existing adhesions, and brought into view. If the ovary is normal or affected only secondarily by the general pelvic inflammation, it is often possible to preserve it, either as a whole or in part, while it may be necessary to sacrifice the tube.

If both ovaries must be removed, then, when possible, a rather long pedicle to one amputated tube may be left. Do anything, in fact, which will tend to keep the woman menstruating. This rule applies especially to young women where to bring about an artificial climacteric is often a source of great mental depression. If a woman but continue to menstruate, she feels that she has not been unsexed. About ovulation she knows nothing, and the medical profession are but little wiser.

In the removal of the tubes or ovaries or both in all septic conditions it is important to use an absorbable ligature. If silk be used, and any infection occurs the suture will not become encysted, but remain as a constant source of irritation until thrown off.

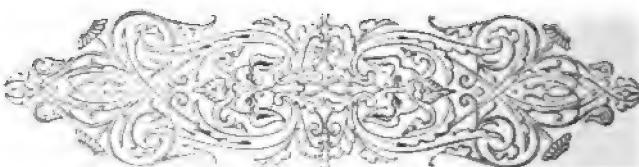
In operating for pyo-salpinx the abdominal route is to be preferred, and as soon as the abdomen is opened mops of gauze should be carefully inserted in such a manner as to wall off the general peritoneal cavity, to prevent infecting it, should rupture of the tube occur during the operation. A large aspirator needle should next be introduced into the distended tube, and its contents withdrawn. The operation is then identical with that for salpingitis, with the exception that in salpingitis one may usually close the abdomen without drainage, while in pyo-salpinx such a course is hazardous in the extreme. I am a firm believer in the gauze drain because it actually affords drainage and removes the fluid by capillary attraction which is more than can be said in favor of tubular drainage. Again I am afraid of the rubber drainage tube in the abdominal or pelvic cavity, as it is likely to be followed by a fecal fistula. This comes about by the end of the tube resting upon the wall of the intestine which it may penetrate as the result of pressure necrosis.

The gauze wick can be easily removed if we prevent its adherence to the abdominal incision. This is accomplished by carrying the wick of gauze through a rubber cylinder or finger cot which remains in contact with the incised wound. It serves another very important purpose, namely, to promote and facilitate capillary attraction. If the wick of gauze is not protected, it will continue to drain only about twenty-four hours, when it becomes clogged at the site of the wound. If it is encased in the rubber cylinder it will continue to drain as long as fluid remains in the cavity and fresh dry gauze is in contact with the free end.

In pelvic abscess it is best to evacuate the pus per vaginam by making an incision through the vaginal vault posterior to the uterine artery. The position of this vessel can usually be determined by its pulsation and should be avoided. After the incision is made in the vaginal vault, introduce the scissors and

force them through the abscess wall; by separating the fingers and withdrawing the scissors the opening is dilated. A double drainage tube is then introduced and the cavity flushed with an antiseptic solution. This tube is attached in position and the nurse instructed to syringe through the tube, either once or twice a day, depending upon the amount of discharge, and the general condition of the patient. After twelve or fourteen days the drainage tube will work out, and the discharge practically cease. But the patient is rarely cured by this operation. She is now in the most favorable condition for either tubo-ovariotomy by abdominal section or by vaginal hysterectomy, to have entire ablation of the pelvic organs.

Quite a number of cases are cured after the opening and drainage of a pelvic abscess per vaginam, but in the majority of cases acute relapses occur, or the adhesions which have formed, occasion more or less constant pain and soreness in the pelvis which can be relieved only by radical operation. This can be more safely performed in the interval than when the pelvis is filled with pus.



## CONGENITAL DISLOCATION OF THE HIP.

BY HORACE PACKARD, M. D.

Extreme interest has been aroused in this subject both among the medical profession and the laity through the recent visit to this country of Dr. Adolph Lorenz, the noted orthopedic surgeon of Vienna. His success in the treatment of congenital hip dislocation in young children had been reported by him through the columns of the medical journals, but had failed to impress upon his colleagues the value and importance of his work, until he was summoned to this country to operate upon the child of a Chicago millionaire. The lay press immediately gave the matter such wide publicity that a popular interest was aroused, unequaled by any other exploit known in the history of surgery.

It is proposed in this paper to present a brief history of Congenital Dislocation of the Hip, with references to its frequency, its effect upon adult life, and the methods now in vogue for its relief.

Our knowledge of the cause of Congenital Hip Dislocation is wholly speculative. A review of the anatomy of the hip joint can but impress one that in the presence of the normal structures which bind the head of the femur to the acetabulum, it seems impossible that any force can act upon the parts in utero sufficiently to effect dislocation. The ligamentum teres is a strong structure which gives way in the adult only under exhibition of great force. It is fair to assume that in fetal life, it possesses proportionately great resistance. The capsular ligament is also a structure of considerable strength, presumably sufficient in itself to maintain the head of the former in the acetabulum. Such opportunities as have been afforded for observation indicate that the acetabulum is always present, and that the articular head of the femur is always present. It is reasonable to assume that at some time in the development of the embryo, the two structures have been in their proper relations—indeed, the presence of a stretched, elongated, capsular ligament is an eloquent argument that such

has come about through gradual departure of the articular head from the acetabulum. I am not aware that there is any evidence, that so-called congenital dislocation of the hip may not be acquired at, or after birth. It is rare that anything is known of the condition until the child begins to walk, and in double dislocation it is likely to be overlooked a much longer time, because the disability being the same on both sides, the gait, although a waddling one, does not exhibit itself as a lameness.

This much, however, may be reasonably assumed, that whether the dislocation occur in utero or out, there must be some congenital laxity or defect of the ligaments of the hip joint as a predisposing cause.

The frequency of occurrence is difficult to estimate. It has been deemed a rare condition, and yet the number of cases which sprang up from all over the country in response to Dr. Lorenz's offer to treat them gratuitously is the best evidence that it is not so unusual as heretofore believed. It seems probable that in the past, many cases have remained in obscurity, because the condition was deemed hopeless, or at least that the methods then in vogue afforded so little that physicians and parents preferred to let the cases take their course.

In a single year fifty-one new cases applied at the Hospital for Ruptured and Crippled, New York City.

At the time of Dr. Lorenz's visit here in Boston, no less than twenty cases gathered at the Children's Hospital in response to an invitation issued by the surgeons of that institution.

In every city visited by Dr. Lorenz, cases of congenital hip dislocation appeared by the score. In Chicago, if newspaper and medical journal reports may be believed, by the hundreds.

All this is evidence of the most convincing character, that this accident of fetal or infant life is not rare, but of relatively frequent occurrence.

The anatomical changes accompanying congenital hip dislocation are of such character, that if they remain uncorrected, great incapacity for locomotion and usefulness in later life results. The head of the femur occupies a movable position upon the dorsum of the ilium, above and back of the acetab-

ulum, and moves or slides up and down at each step, giving the wobbling gait which must be inseparable from such instability of the head of the femur. All available evidence indicates that the acetabulum is always present—sometimes imperfect, but often normal or nearly so. The head of the femur has sometimes been found distorted, flattened and smaller than normal, with a shortened neck and depressed to nearly a right angle with the shaft. The capsular ligament is elongated, thickened and sometimes narrowed in the middle



Fig. 1.

to something like an hour-glass shape. The ligamentum teres is absent. All these changes are sure to be exaggerated with lapse of time, hence the insuperable obstacles of advanced youth to reduction. The adductor muscles act constantly in a

way to push the whole femur to a higher level and become one of the most serious obstacles to reduction and maintenance of correct posture. With the lapse of time, then, the acetabulum becomes shallower, the head of the femur smaller and



Fig. 2.

more distorted, the capsular ligament elongated, thickened and constricted, and the adductor muscles shortened. Obviously early childhood—the earlier the better—is the choice of time for reduction, because the anatomical structures concerned have not yet suffered permanent physical change, and therefore lend themselves more readily to reposition and correct functional activity.

It is estimated by Dr. Lorenz that it is useless, in unilateral cases, to attempt reduction after the ninth year, although he has in a few instances succeeded. In bilateral cases he places

the limit at six years. This difference seems surprising, but the obstacle in bilateral cases is not the difficulty of reducing the dislocations, but in keeping them reduced. In unilateral cases there is a well strong leg to take the brunt of locomotion when the child begins to walk again, but in the bilateral, both legs are defective, both must equally have the brunt of work, when the retention dressing is removed.

It is claimed, and upon good grounds, that a shallow acetabulum deepens after reduction and fixation is established, in other words, that the presence of the head of the femur, after being readjusted in its normal place, brings about a salutary change in the acetabulum. Dr. Lorenz thinks that there is an actual building up of new bone about its rim.

The external and visible anatomical changes, are largely those of figure. It has been stated above that the mobility of the head of the femur upon the dorsum of the ilium, results in a waddling gait. When the affection is unilateral, this waddling appears as a lameness or limp, with prominence of the hip of the affected side, and a twist of the pelvis. In bilateral cases, there is always lordosis, produced by the tilting forward of the pelvis and its vertical suspension from the heads of the femora and the elongated capsular ligaments. This peculiar and unstable sling-like support, is tolerated in infancy and early childhood, because the superincumbent weight of the trunk is comparatively slight, and the patient, up to puberty and youth walks about with remarkably little embarrassment. With increasing weight, however, especially if the case be bilateral, the pelvis tips farther and farther forward until an extreme compensatory curvature of the lumbar spine develops. At each step the head of the femur slides up and down on the dorsum of the ilium; finally the area of friction becomes bare and eburnated. With advancing years and increasing weight of the trunk, locomotion becomes more and more difficult and limited.

#### TREATMENT OF CONGENITAL HIP DISLOCATION.

The treatment of this deformity has been a surgical stumbling block up to the time of Lorenz's teachings. Treatment by splints, and by extension have proven unavailing be-

cause of the impossibility of reducing the head of the femur to the acetabulum by such means, and furthermore, the failure to keep it there, if it by any chance reduction was effected.

To Hoffa, belongs the credit of initiating the first great advance in the surgical treatment of congenital hip dislocation. He recognized that success must depend on complete restoration of the head of the femur and its maintenance there. This he accomplished by a cutting operation, exposing the acetabulum, and in case of its inadequacy he chiseled it out sufficiently to receive the articular head and keep it there. This was a step in advance, but the results were not satisfactory for an ankylosis was almost sure to occur, with nearly as great disability in locomotion as accompanies untreated cases.

Nearly simultaneously, Pacci, of Italy, and Lorenz, of Austria, essayed to effect reduction by manipulation and postural fixation. Unfortunately for Pacci, his case was a youth, and the anatomical changes offered such obstacles that his efforts were unavailing. Lorenz's case was a young child, and he succeeded.

The Lorenz method then in brief, is reduction by manipulation, and retention of the articular head in the acetabulum by postural fixation. The latter is really the important feature of the Lorenz method. His system of manipulation does not differ materially from that of the late Dr. Henry J. Bigelow, of Boston, for reduction of accidental hip dislocation. Dr. Lorenz has shown that reduction of congenital hip dislocation can be done in the same way, and the steps differ in nowise from those which anyone would follow in reduction of a neglected accidental hip dislocation.

In congenital hip dislocation the adductor muscles become much contracted and shortened, and offer greater resistance to reduction and retention than any other structure involved. Dr. Lorenz breaks this down at the outset, by strong adduction of the leg and forcible kneading of the muscles at their tendinous attachment to the pelvis. The next step is extreme flexion of the whole limb, then extreme extension limited only by the integrity of the tissues—all this time the pelvis is fixed by the hand of an assistant. After all the tissues about the joint have been stretched or torn, sufficiently to permit the head of the femur to be brought down to the acetabulum, the leg is again abducted, and with the aid of a wedge-shaped block as a fulcrum, the head of the femur is slipped over the edge of the

acetabulum into the concavity. Now comes the part which is Dr. Lorenz's discovery, viz., the fixation of the limb in extreme abduction by a plaster cast, for six months to a year.

The position of abduction, and fixation in that posture, assures the retention of the head of the femur in the acetabulum. In no other way now known can this be done. Adjustment parallel with the sound leg, in alignment with the trunk is, and always has been futile, for despite splints, extension and counter extension, redislocation is sure to occur.

Immediate Effect upon the Patient of Reduction and Fixation in Abduction.—This must be considered under two headings, viz., unilateral cases and bilateral cases.

Although the malposition of a limb fixed in extreme abduction is very great, yet after the first few days, the patient learns to walk about, although of necessity his locomotion is much impeded. The well leg is a great boon and takes the brunt of the work. But by moderate effort he foot of the abducted leg can be brought to the floor and the patient manages to hobble about.

It is quite different, however, with the bilateral cases. Here both legs are fixed in abduction, and as a result the patient is helpless through the long months of waiting.

This adds much of gravity to the cases of double dislocation, and even when the time comes for releasing the limbs from confinement, the danger of redislocation is greater than in the single dislocation.

Limit of Age for Successful Reduction.—Dr. Lorenz places very sharp limitations upon the age for his so-called bloodless operation. In unilateral cases the age limit is nine years, while in bilateral cases it is six years. This at first thought seems a singular divergence, for apparently there can be no reason why if a nine-year old single dislocation can be reduced, the same age double dislocation cannot be also reduced. But reduction is only a small part of the matter—the final test of the success of the operation is the condition which ensues after the retention casts are removed months later. Up to nine years the majority of unilateral cases are successful. After six years, the majority of bilateral cases are unsuccessful—hence the limitation.

The lesson to be drawn then, is, that all cases of congenital hip dislocation should be reduced early—as early as they are discovered. In the first three or four years of life the operation is easy, the results good. After that, while success may still be attained up to the above limitations, the obstacles and difficulties rapidly augment with each added year.

## SPECIFIC DISEASES IN THE PREGNANT STATE

BY ALICE HUMPHREY HATCH, M. D.

These diseases, far-reaching and deep-acting, with their many and varied manifestations in the average individual, are quite enough for the physical endurance of the patient, and difficult as well as dangerous for the physician to treat. Add to this state of the diseased organism the many and varied complications that are liable to arise in the pregnant state, and you have a condition, the outcome of which is very uncertain, both for the mother and her unborn child. The effect is equally uncertain as to the future influence upon both. As one contemplates, visions of peritonitis, ovaritis, cervical and vaginal and uterine inflammations come crowding up for recognition, while ovarian tumors or insanity are not far in the rear. On the other hand are diseased and deformed babies, doomed through no fault of their own to a life of trouble and suffering, with the prospect of transmitting to the third and fourth generation the diseases which have been so unjustly their heritage.

Some authors insist that diseased women seldom become pregnant, but experience proves that far too many of them do become so, and no two manifest the same general symptoms. None are free from complications during pregnancy, or at the time of delivery. In gonorrhreal subjects the distressing conditions that naturally arise from inflamed mucous membranes are intensified. Nausea and vomiting are frequently present and very intractable. The patient suffers more or less pain and discomfort all through the period, is very liable to miscarry or be prematurely delivered and usually suffers severely at time of delivery. Is very liable to excessive post-partum hemorrhages, and is much more liable to pelvic and peritoneal inflammations after delivery of child, whether it be premature or at full term. None escape entirely, the least vicious cases show some pelvic tenderness a few days after labor with rise of temperature and extension of infection, while the more severe types are followed by general pelvic or peritoneal inflammation. A woman who escapes with her life

is most surely doomed to months, and perhaps years of suffering from chronic forms of gonorrhreal inflammation, vaginitis and cervicitis being the least to be dreaded. If the infection extends into the uterine cavity it is serious enough, but when the tubes become infected and distended with pus, the suffering is intensified. No doubt many cases of ovarian tumors owe their origin to old gonorrhreal infection.

In the syphilitic patient we see a greater variation of symptoms. Conditions as varied as can well be imagined. Women in the first stage of the disease are more likely to conceive and give birth to a living child than those in whom the disease has reached the secondary and tertiary stages. The chief danger is to the child, rather than to the mother, for the disease goes quietly on from one stage to the next without being affected apparently by pregnancy. In some cases it seems to affect the mother less, while all the virulence of the poison is transmitted to the offspring, and seldom is a normal healthy child born of syphilitic parents. It may be born dead prematurely, or at full term, and here we are likely to find all sorts of monstrosities; hydrocephalus, spina bifida, arrested development, etc. If the child survives it may show signs of the disease within a few days; blebs may develop, or some type of eruption of the skin, or the well-known "snuffles" may be noticeable within a few days. Or it may be in apparent health for some weeks, and even seem to grow and thrive, when the vital forces appear to become exhausted, the face begins to look old and pinched, general emaciation is noticeable, and the little one fairly fades away and dies. Or the disease may develop in a virulent type of eczema, accompanied with boils and abscesses, or it may be manifest in the bones in necrosis, the nasal, cranial or long bones most frequently attacked.

Whether or not the symptoms seen in the babe correspond to the stage reached in the mother is a question I have never heard discussed. It is my opinion that it does, and that the deeper and more destructive and dangerous types are manifest in children whose parents have reached the third stage of the disease, and that the skin and mucous membrane are more likely to be the point of attack in earlier stages of the development of the disease in the parents. In gonorrhreal subjects the opposite conditions certainly obtain, for the more remote the infection the less likely is the child to suffer from the disease.

Some of the conditions noted in the offspring of the gonorrhreal subjects are: First, the development of ophthalmia neonatorum in the first few days of its life. But the careful physician will endeavor by the prompt use of a disinfectant, immediately after the birth of the child, to prevent the development of this terrible disease: Second, the babies are apt to be very fretful and cry a great deal, and the food is more likely to disagree.

A very few serious cases have been under my care: one a young woman who contracted gonorrhea about the time of conception, the disease affecting chiefly the vagina, urethra and bladder. She was cared for during the first seven months by some other physician and came to me two months before delivery. From the history she gave me of her case, she was evidently ignorant of the true cause of the trouble. Physical examination revealed a severely inflamed and eroded condition of the cervix and vagina with profuse discharge of yellowish, greenish and sometimes bloody leucorrhœa which was acrid in character. The patient complained of pain in back and lower part of abdomen; did not sleep well; was weak and indisposed. She was given local treatments twice a week; borated pix powder being used, together with hot vaginal douches, medicated with pix cresol. Internal remedies were given as indicated with little improvement up to the time of delivery at full time. The babe has never shown any bad effects from the disease. Three days after delivery patient had a severe chill, followed by rapid rise of temperature, reaching 106° as a maximum. A general toxic condition was present. The local discharge was suppressed and never but partially restored. The temperature ranged from normal to 106°, with rapid rise and fall. Patient became delirious on the fifth day; sunk into a comatose condition, and died just ten days after the birth of the child.

Another fatal case of the same character fell to my lot some years ago. In this case the patient had contracted gonorrhea eighteen months prior to the birth of child. Her labor was severe and difficult, followed by a very profuse hemorrhage which was exhausting to patient. On the third day she began to show signs of general peritonitis, which proved fatal in less than a week. I have cared for a large number of gonorrhreal and syphilitic patients, and these are the only ones I have lost. The surprising feature is, that so many of them live and escape so much, and we can only account for it by the marvelous results made possible by the well selected Homeopathic remedy.

**ON SOME CONSTITUTIONAL CONDITIONS ASSOCIATED WITH UTERINE FIBROIDS: A CLINICAL STUDY.\***

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Some time ago our estimable colleague, Dr. Cash Reid, read a paper bearing on our subject. His paper and some suggestions he made with regard to the points worthy of consideration stimulated our interest in the matter, and the results we have the honor of laying before you are based on observations carried out with varying regularity and enthusiasm during the last nine years. We have described our paper as "A Clinical Study," because our facts and remarks are limited to observations of a strictly clinical nature. Reference to books has been intentionally avoided, and indeed, as far as we know, similar ground has not been previously broken, or only in scattered patches. Post-mortem morbid anatomy has also been excluded. Gynecological literature contains much that is of importance in that domain, and it is borne out by our clinical records, but we have not introduced it into this "study." We, who have studied the figures from all sides, are more conscious of many imperfections in our work than perhaps our indulgent audience is likely to be. It is not from lack of material that our paper is not based on larger numbers, but from lack of time, in the rush of out-patient work, to make full observations, and from the absence of an analytical department in the hospital and the consequent heavy expenditure private analysis entails.

Our statements and deductions are based on ninety cases of uterine fibroids; of these there are fifty with quantitative analyses of urea and uric acid, and forty without. In some

\* Presented to the Section of Surgery and Gynecology, February 5, 1903.

instances information on isolated points has been absent, as shown by the tables placed in hands of members present. With these introductory remarks we will proceed to our task.

It was thought necessary to form one classification of tumors on the basis of size. In view of the difficulty of obtaining accurate measurements we have adopted a rough and arbitrary division into small, medium, and large.

The small tumors are those not exceeding the size of an average orange.

The medium tumors are those not exceeding the size of a fetal head.

The large tumors are those larger than a fetal head.

Of small tumors there are 24; of medium tumors there are 34; of large tumors there are 30; making a total of 88—for in the two remaining cases the size is not stated.

Out of eighty-three patients fifty-one were above forty years of age, and the rest below that limit.

A few words as to the hemorrhage in all cases is called for.

Bleeding was excessive in 51 cases = 58.6 per cent

Bleeding was moderate in 15 cases = 17.2 per cent.

Bleeding was scanty in 13 cases = 14.9 per cent.

Bleeding was absent in 8 cases = 9 per cent.

In the tumors which were increasing in size the percentage of excessive hemorrhage was greatest, viz., 70 per cent., being in the stationary ones 41.4 per cent. This high percentage, it must be remembered, belongs to their increasing growth, and not to their dimensions; for, in classifying the hemorrhage according to the size of the tumor, the medium tumors showed the highest proportion—70 per cent.—of excessive bleeding, the large tumors coming next, and the small ones last. We have made no attempt to define what constitutes excessive hemorrhage, leaving it to the judgment of the reporter and of the patient, who would be influenced, perhaps, by effects as well as by mere quantity. In over 30 per cent. the hemorrhage was sufficient to cause decided anaemia, while in a somewhat large proportion of cases it is distinctly stated that no anaemia was present. The effects of hemorrhage and conditions associated

therewith will be further considered in subsequent sections. The postponement of the climacteric induced by myomata is well shown by the fact that sixteen patients were menstruating at the age of 48 and upwards, and seven of these varied from 50 to 55 years of age.

It is perhaps taken for granted by most practitioners that the great harm and danger of uterine fibroids is due to the hemorrhage, and it may seem to you unnecessary to assert so obvious a position. Yet we venture to make the assertion as a fact from our statistics rather than as a pious opinion. We shall presently see that the cardiac weakness frequently found in fibroids is intimately connected with the hemorrhage. It is a matter of surprise how long the economy of women seems able to resist so abnormal a drain as many sufferers from fibroids experience. Apart from the gradual ill-effects of menorrhagia, it must be borne in mind that there is a potential tragedy in the life of every woman with a fibroid. One brief "flooding" may reduce a strong young woman to decrepitude and old age. Never to be forgotten was the case of E. C., who had for a year or two been attending as an out-patient, suffering steadily from menorrhagia, but who was tall, strong, and well built, and appeared likely long to resist the strain of the hemorrhage. After a slightly longer interval than usual she returned with a gray, pale face, sunken eyes and emaciated cheeks, stooping, haggard and breathless. This change had taken place in one day, while away from home, and she thought she was bleeding to death. She was previously contemplating operation, but it was necessary to tell her she was then totally unfit to bear it, and she has never returned to tell us the sequel.

The damaging effect of steady prolonged free bleeding in a growing tumor is a common enough thing. J. C., aged 38, had a large myoma with excessive watery hemorrhage. In 1899 the first sound at the apex was described as impure, and the cardiac impulse was forcible. A year later the apex beat was in the nipple line, and there was a marked systolic bruit. Patient had become thin and anaemic.

The pulse tracing taken in 1899 showed more tension than those taken subsequently. That taken in 1900 was very low

(Fig. 2), while Fig. 3, taken three or four weeks after hysterectomy (performed by Dr. Cummins) showed that the heart had rapidly begun to regain its tone.

The question of arterial pressure or pulse tension in connection with uterine fibroids is one which appears of some im-

*J.C.—Case of cystic myoma*

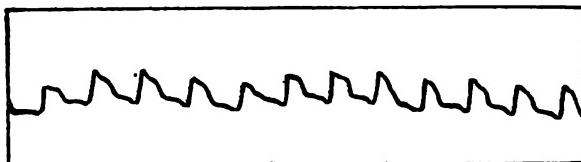


FIG. 1. Showing some heightened tension.



FIG. 2. A year later, showing low tension

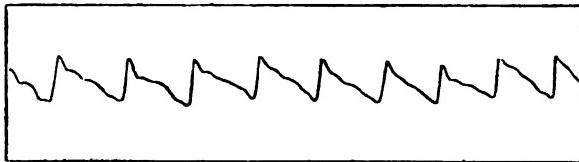


Fig. 3.—

portance and interest. In investigating this subject we have been quite without any preconceived opinions, so that the following conclusions are based solely on the facts disclosed. We have to note, firstly, the marked predominance of a high tension pulse in a large majority of all cases, except when some special complication intervened. In attempting to account for this striking coincidence, the first query to present itself was whether or not any variation in the excretion of urea or uric acid could be made responsible for it.

Estimating the daily average excretion of urea in fifty cases

(based on eighty-nine complete quantitative analyses), we found it to equal 367 grains. Although this average is below that given in text-books as the normal in healthy adults, we do not regard it as an unusual average for the class of women who attend the out-patient departments of our hospital. As a control experiment we estimated the total urea in fifty other (non-myomatous) patients, all women collected consecutively, and found the daily average worked out to 417 grains, but these were private patients, and probably were taking more nitrogenous food than the ordinary out-patient. In another series of thirty-eight analyses in a man in good health but of light weight (8 st. 12 lbs.), the daily average was 319 grains.

In estimating the uric acid the absolute average works out to 10.5 grains, giving a ratio of uric acid to urea of 1 to 35, the accepted normal. These figures refer to the whole number of fifty patients in whose cases analyses were made. When, however, we classify the growths into those which are increasing, decreasing and stationary, a fact of some interest becomes evident.

CONDITION OF TUMOR	RATIO	* GRAINS OF UREA—Average.	† GRAINS OF URIC ACID —Average.
INCREASING.....	Minus ratio.....	5..... 442.5.....	9.8
	.... Normal ratio.....	9..... 364.7.....	10.8
	.... Plus ratio.....	7..... 334.3.....	13.2
		21	
STATIONARY.....	Minus ratio .....	\$ 12 .....	5.63
	.... Normal ratio .....	2..... 49 <sup>1</sup> .....	14.9
	.... Plus ratio .....	4..... 356.2.....	13.9
		18	
DECREASING.....	Minus ratio.....	2..... 527.5.....	13
	.... Normal ratio.....	1..... 445.....	12.5
	.... Plus ratio.....	1..... 546.....	22
		4	
TOTAL.....		43	

\* Average = 367 grs.      † Average = 10.5 grs. (Average Ratio = 1.35.)  
\$ 6 of these very low (less than 1.55); 6 of these moderately low.

In the increasing tumors the absolute excretion of uric acid is decidedly increased in 33 per cent., while in the stationary tumors it is decidedly decreased in 66 per cent.—in half of which the uric acid was very low. There is no corresponding

difference in the urea. As both increasing and stationary tumors show increased pulse-tension, we cannot attribute it to the uric acid, the tension being high whether uric acid was present in excess or not. Moreover we have found that in both kind of tumors taken together, the ratio of uric acid to urea is below the normal in the vast majority of cases. As a high ratio of uric acid is generally considered to be a chief cause of increased arterial tension, it is the more remarkable that the tension is almost uniformly high without this cause being present. In those cases in which the ratio was high nearly all had excessive hemorrhage and about half of them pronounced anaemia. We are therefore driven to seek some other cause than excess of uric acid in the blood to account for the increased arterial tension. We have to confess that we cannot adduce any definite facts to account for it, but it is perhaps a fair deduction that some reflex vaso-motor influence seems more likely to cause it than the direct presence of the tumor or any blood condition. As shown elsewhere excessive tension predominates in young subjects with growing tumors—in other words, during the period of ovarian activity, and this often notwithstanding excessive hemorrhage. It is well recognized that pulse-tension is increased during normal menstruation, *i. e.*, at a time when there is marked ovarian hyperæmia. It is also a common observation on the operating table that growing fibroids are associated with enlarged ovaries. These organs may, then, be surmised to be the centers of increased reflex impulses inducing high arterial tension. The lowered tension following their dwindling at the menopause or their removal by operation would also favor this view. Were it necessary to adduce proof of the last statement, *viz.*, that oophorectomy may be followed by a reduction of tension, case 9 is an instance. A woman, aged thirty-six, had a small tumor in the broad ligament; she had profuse hemorrhage, increased arterial tension, and slight cardiac dilatation. On opening the abdomen it was seen that the tumor was about the size of a tangerine orange, attached to the uterus by a broad pedicle, and occupying the right broad ligament. For these reasons it was decided to remove the ovaries, instead of the tumor. The

decision was probably an error of judgment. However, menstruation was arrested, the tumor diminished for a time, and the tension became normal, but the tumor afterwards increased, and continues so to do; compensatory cardiac hypertrophy has occurred. In passing we may state that it is not an unusual circumstance for a myoma to enlarge after oophorectomy, subsequent to an immediate diminution. The first three months are no guide as to the final results of oophorectomy for myoma, either as regards the growth of the tumor or the hemorrhage.

Turning now from causation to the effects of the heightened tension on the economy, our figures strongly suggest that it is one of the principal causes of the hemorrhage which commonly accompanies fibroids. While admitting that in the submucous variety the anatomical position of the tumor would more simply account for the menorrhagia, there still remain a large number of cases with excessive hemorrhage, where the position of the tumor would not directly account for it. Our figures show that of tumors with excessive hemorrhage there is increased pulse-tension in 54.4 per cent. This far exceeds the proportion of submucous to all fibroids. It is needless to say that excessive hemorrhage tends to reduce pulse tension, so that so high a percentage is the more striking. In examining individually the cases of minus tension before the age of forty-five, it is found that in almost every case some complication in the shape of cardiac weakness, very excessive hemorrhage or anaemia existed.

In investigating tension with reference to the age of patients, it is seen that in 50.9 per cent. of patients under (and including) forty-five the tension is excessive, that in those who are still menstruating, and are over forty-five, the tension is excessive in 45.4 per cent., while in cases entirely post-menstrual the proportion of high tension drops to 33½ per cent. In other words we find that during the years of active sexual life when there is the greatest proportion of large and increasing tumors, the proportion of high tension pulses is also the greatest. Indeed, it may be stated that in practically all comparatively young women with active tumors the pulse tension is high, unless some obvious cause, usually cardiac, exists to lower it.

When we get a tumor before the menopause, of large or medium size, especially if reported to be or found to be growing, with a low arterial tension, we may conclude that the heart muscle is beginning to suffer, either from the continued stress of working against (previous) high tension and nourishing a new growth, or from the effects of menorrhagia. The low tension pulse will generally go with some signs of cardiac weakness. In the cases we shall allude to later, running a favorable course to the menopause, a plus tension existed until the subsidence of activity of the growth lowered it, and allowed the heart to recover itself. We may thus say that a minus tension in a young woman with a growing tumor may be regarded as a sign of commencing failure of heart muscle. Indeed, it would not be unsafe to say this even of some stationary tumors with only moderate hemorrhage. Where this is true the tumor will probably be of long standing. The case of J. B. (whose tumor was exhibited) was one of this kind. The pulse was habitually over 100. The patient, aged thirty-eight, had a myoma, stationary during the time she was under observation, with moderate or scanty hemorrhage. The tracing was of low tension, lessening as time went on. The sphygmometer registered only 158 mm. of mercury; breathlessness, and a systolic mitral bruit developed. Operation was advised, and the patient made a good recovery from it.

The first two tracings show the lowered pulse tension.

Fig. 4 was taken in July, 1901.

Fig. 5 was taken in October, 1902, not long before hysterectomy was performed.

Fig 6, taken five or six weeks after operation, shows that the heart has not yet begun to recover from its strain. The apex beat is in the nipple line, first sound loud and roughened.

By contrast with the foregoing, as an example of the condition of tumor which it is safe to leave, we may quote the case of K. B., aged forty-four, in 1901. She had a tumor of medium size, with excessive hemorrhage. After observation the growth was found to be on the increase, and, although the patient was somewhat breathless on exertion, she was not definitely anæmic. There were faint bruits at apex and base, but the heart dullness

was not increased; the pulse, though small, was not rapid, and the pulse tracing showed marked tension, well maintained during more than a year. The quantity of urea and uric acid, and their ratio, were normal. So that, although there were on the one side a growing tumor, excessive hemorrhage, "impure" heart sounds, and a small pulse, the facts that the

J. B.—*Case of stationary myoma with progressively diminishing tension and rapid pulse.*



FIG. 4.

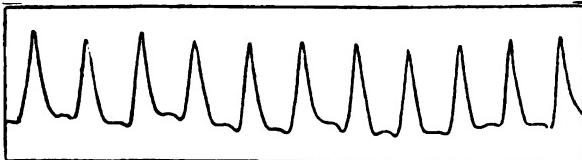


FIG. 5.

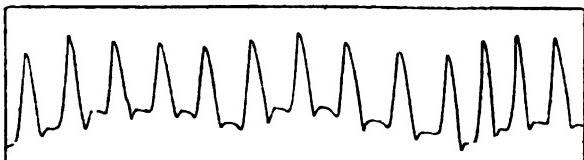


FIG. 6.

patient was near the menopause, that her vascular tension was high, her cardiac muscle good, rendered it safe not to interfere. Should the pulse become rapid, and the tension noticeably fall, more active treatment would probably be called for. In this case the sphygmometer confirmed the sphygmograph, registering 215 mm.

#### HEART.

In classifying the cardiac effects of fibroids, as it is impossible to enter into detail in all the cases, it appears sufficient to

divide them into four classes:—(1) Normal hearts. (2) Hæmic bruits. (3) Hearts with increased area of dullness or altered strength of sounds. (4) Hearts with valvular defects.

*Case of K. B.—Showing high tension sustained over a period of 6 months.*

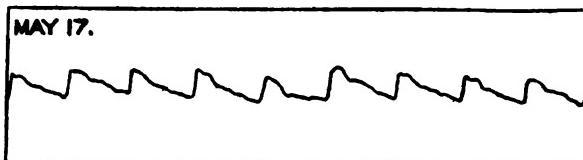


FIG. 7 May, 1901.

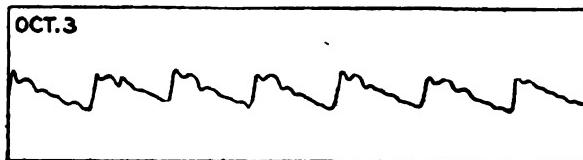


FIG. 8. October, 1902.

(1) *Normal Hearts:*—

(a) With high pulse tension.....	6
With low pulse-tension.....	1
With normal pulse-tension.....	3
	—
	10
(β) With excessive hemorrhage.....	6
With scanty hemorrhage.....	1
With normal hemorrhage .....	1
With amenorrhœa.....	3
	—
	11

(2) *With Hæmic bruits:*—

(a) With high pulse-tension .....	9
With low pulse-tension.....	3
With normal pulse-tension.....	2
	—
	14
(β) With excessive hemorrhage.....	9
With scanty hemorrhage.....	2
With normal hemorrhage.....	2
With amenorrhœa .....	1
	—
	14

(3) *Hearts enlarged, etc.:*—

(a) With high pulse-tension.....	12
With low pulse-tension.....	8
With normal pulse-tension .....	7
	—
	27
(β) With extensive hemorrhage.....	20
With scanty hemorrhage.....	3
With normal hemorrhage .....	4
With amenorrhœa.....	2
	—

(4) *Hearts with valvular defects:*

(a) With high pulse-tension.....	1
With low pulse-tension.....	2
With normal pulse-tension.....	1
	—
	4
(β) With excessive hemorrhage.....	1
With scanty hemorrhage .....	1
With normal hemorrhage .....	1
With amenorrhœa.....	1
	—
	4

In looking over the tables (annexed) dealing with the cardiac conditions, it is noteworthy that out of fifty-eight cases where definite information respecting the heart is given only eleven could be classed as quite normal. In as many as twenty-nine there were evidences of enlargement—hypertrophy or dilatation; and in fourteen haemis bruits were present, suggesting the probability of other changes arising in the near future.

Referring again to tension, we find in the first and second classes that high tension predominates, and about equally in each. It also predominates, though to a less extent, in the third class—enlarged hearts; while in this last division the proportion of minus tension is greater than in the others, showing that in many cases the hypertrophy is giving way to dilatation and cardiac weakness. The larger proportion of excessive hemorrhage in the last class (twenty out of twenty-nine) would doubtless account for this.

We learn more perhaps from studying cases individually than from drawing up averages, and in so doing we find that the

presence of a growing tumor, often even without excessive hemorrhage, appears to put a decided strain upon the heart. In some cases under observation, from two to five years' bruits have either developed or become more pronounced, and the area of dullness has become extended, especially in the outward direction. In those patients whose cardiac dullness was increased by extension to the right of the sternum the cases were of long standing, and accompanied by excessive hemorrhage, and an increasing tendency to a low tension pulse.

#### INDIVIDUAL CASES.\*

— Some of the individual cases considered historically convey useful lessons.

That of A. L. (190 H.), who was forty-five when she came under observation, is one of these. She had a fibroid reaching nearly to the umbilicus, and the hemorrhage was fairly free. How long she had had this tumor she could not tell, but it had of necessity been present some years. There was no history of rheumatism or other illness likely to damage the heart, yet she had a rapid pulse (108), and the apex beat was in the nipple line. The pulse tension was high in spite of the frequency of the pulse, but no bruits were present. For about eighteen months the tumor continued to grow, and at the end of that time the beats were more feeble, and a slight mitral systolic bruit was audible. Six months later the hemorrhage was lessening, and the growth of the fibroid was arrested. At this stage the apex was still in the nipple line, and the first aortic sound was poor, and the second accentuated. A year later the tumor was still stationary, the hemorrhage lessening, the pulse tension coming down, and no cardiac bruits were audible. In rather less than another year, with a decreasing tumor the apex beat had regained its normal situation, the mitral sounds were quite natural, and only a slight accentuation of the second aortic and pulmonary sounds was audible, and the quantity and ratio of urea and uric acid were about normal, while at the present time—another eighteen months having elapsed—the hemorrhage has ceased for nearly a year, the tumor is slowly

\* The use of the first person is by Dr. Neatby.

lessening, the pulse tension and the heart sounds appear quite normal. This is an instance of a remarkably favorable course for a myoma and its cardiac concomitant condition to run.

Very similar was the case of Mrs. M. (C. B., vii., p. 176), who has been under observation for ten years, and who was forty-four when first seen. She had a tumor reaching to the umbilicus. For two years and nine months it slowly increased, the pulse rate increasing from 72 to 84, the pulse tension in 1894 being high. The hemorrhage was free for eighteen months, becoming less thereafter. The heart was normal at first; subsequently the apex beat was found at the nipple line, and an aortic systolic bruit was audible with an accentuated second sound. There was no bruit at the apex. The menopause became established four years after I first saw her, the pulse dropped to 76, and the tumor steadily diminished until it could only be felt bimanually. Still later a tracing showed a quite normal tension, and the heart appeared wholly healthy. Again, in a patient sent to me by Dr. Bennett, where the hemorrhage was excessive, the patient anaemic, and the tumor large, there was a mitral systolic bruit, and a sphygmogram of pulse tension. Six months after hysterectomy the pulse tension was normal, and the heart was sound.

Such cases as these show the strain put upon the heart muscle by a growing fibroid tumor—a strain from which the heart may recover completely after the friendly onset of the menopause, or after the surgical removal of the tumor. I think it fair to say that there are many such cases, but there is another side to the shield.

For instance, M. P. C. (Case 9) for long, suffering from menorrhagia associated with a small medium-sized fibroid, became anaemic, with great breathlessness and faintness after the periods, had a pulse of 96 even when at rest, systolic bruit of all the valves, and the apex beat external to the nipple line. I performed hysterectomy a few days before a period in order to avoid the effects of another hemorrhage. The shock proved too much for her, and she died.

The operation ought to have been performed earlier, and the event suggests that a longer course of treatment for the heart

condition prior to operation might have been wiser. In the case of an anæmic patient with small multiple myomata, a low excretion of urea and uric acid, the heart sounds were feeble, and the pulse rapid. Hysterectomy was followed by relief to pain and a cessation of hemorrhage, but the heart did not sufficiently recover itself to enable the patient to undertake the active duties of life.

In another instance hemorrhage had very much reduced the strength of a patient when we first saw her in 1895. Hysterectomy was regarded as too formidable in those old days of extra-peritoneal pedicle. For a time general treatment appeared to strengthen the heart, but definite dilatation of both ventricles became established, and, although she recovered without difficulty from the modern retroperitoneal operation, the heart did not recover, and she died some months later from heart failure.

The most extreme instance we have ever seen of damage due to a large cystic fibroid was referred to in a paper on "The Life History of Uterine Fibroids," read from the Presidential chair of this Society.

Mary S., aged forty-one. She had had amenorrhœa for one year, preceded by two years of menorrhagia when admitted to hospital. Her abdomen measured fifty inches in circumference, and there was some ascites. So great was the pressure that, in addition to general anasarca, large bullæ full of serum had spontaneously formed on the abdomen. There was great dyspnoea, systolic mitral roughening, and the pulse was 120, weak and compressible. Although the tumor was so large it was said to have been first noticed only nine months before; possibly cystic degeneration has only rapidly progressed during that period. The urine had a specific gravity of 1020, was loaded with urates, but contained no albumen or sugar. The patient repeatedly became very faint and blue, and during one of the attacks she died, with asphyxia and convulsions.

After the fluid was emptied from the cysts, and had drained from the interstices of the tissues, it weighed over twenty-seven pounds. Unfortunately no tracing was made of the pulse, and no notes taken of the post-mortem state of the heart.

From these reports it will be seen that some of the cases

with obvious cardiac derangement made a good and complete recovery after the menopause or operation, while others failed to do so. It has been of much interest to ourselves to notice that in all those patients whose hearts recovered the pulse tension remained high, while in those where it did not recover it was low, thus emphasizing our belief that a persistent low tension pulse is an important and unfavorable symptom. In this connection we venture to put forward four signs as being of grave prognostic importance: (1) persistent low tension; (2) long-lasting profuse hemorrhages; (3) very excessive hemorrhages (floodings); (4) persistent frequent pulse.

With such serious circulating disturbances, and with the presence of an abdominal tumor, it might, perhaps, be expected that the kidneys would also suffer, but, on investigating their condition, as shown by the urine, we find the average quantity passed daily to amount to 45 ozs., a very fair average, even in the healthy subject. In six cases only was there any albumen, and of these five showed only a mere trace, and that not constantly. In one case only was there any casts. As a matter of curiosity, and with a view to further test the renal integrity in fibroids as compared with other abdominal conditions, we computed the daily amount of urine passed on the first three or four days after operation in twenty patients—ten hysterectomies, and ten other coeliotomies—and found the result to be  $22\frac{1}{2}$  ozs daily for the hysterectomies, and 18 ozs. for the others, a balance decidedly in favor of the fibroids.

There was at one time a question as to whether uterine fibroids formed part of a general arterio-capillary fibrosis. We must come to the conclusion that this is not the case, for not only do our investigations into the renal functions negative the suggestion, but the examinations of the ocular fundus very kindly made for us by Mr. Knox Shaw, Dr. Lambert, and Mr. Reynolds, point in the same direction. Except that some few had slight changes due to errors of refraction, the fundi were normal, showing neither pallor nor any signs of retinitis. Should cases of generalized fibrosis be seen in connection with uterine fibroids, the association would probably be accidental, or at most a result of long-standing high arterial tension, which

might induce trophic changes in the arterioles and capillaries. Of this, however, as stated, we have seen no evidence.

On the other hand, we have frequently met with cases of muscular asthenopia in association with fibroids.

#### SUMMARY OF RESULTS OBTAINED.

- (1) That fibroid tumors are constantly associated with much hemorrhage, the loss being excessive in more than half the cases.
- (2) That the excessive hemorrhage is correlated with increasing growth, and not with the size of the fibroid.
- (3) That anæmia is frequently, but by no means universally, present when there is excessive hemorrhage.
- (4) That fibroids are usually accompanied by a high tension pulse.
- (5) That when the tension is low there are special causes, such as cardiac weakness, excessive hemorrhage, or anæmia, to account for it.
- (6) That the high tension pulse is not due to the presence of excess of uric acid in the blood.
- (7) That it is probably a reflex phenomena due to abnormal ovarian activity.
- (8) That the increased pulse tension is an important cause of the excessive hemorrhage.
- (9) That the presence of a fibroid places a great strain upon the heart, causing first hypertrophy, and later dilatation and valvular defects.
- (10) That if a fibroid ceases to grow or retrogrades, the strain lessens, and in favorable cases the heart may return to the normal.
- (11) That in cases which run a favorable course the pulse tension remains high, while in unfavorable cases it becomes low.
- (12) That the functional activity of the kidneys is not impaired by the presence of a fibroid.
- (13) That the quantity of urea excreted is not materially altered.
- (14) That the ratio of uric acid to urea is usually below the normal, though in a fair proportion of increasing tumors the absolute quantity of uric acid excreted is increased.

## THE USE OF THE OBSTETRIC FORCEPS IN ABBREVIATING THE SECOND STAGE OF LABOR.\*

BY WILLIAM H. STAUFFER, M. D.

In considering the above subject I shall attempt to emphasize some points not found in the text-books, and what I may have to say is from the standpoint of the general practitioner.

In advocating the more frequent use of the forceps, I am not unmindful of the responsibility assumed, and take it for granted that he who attempts to enter the sacred portals of a would-be mother must be well equipped. He must be well grounded in anatomy, able to make a diagnosis, and possessed with that rare judgment and deliberation which only comes by that thorough knowledge which makes him master of the situation.

Statistics help us but little, as only a minority of the cases are reported, and most of us must learn by experience, and, alas, too often to the detriment of our patients. For convenience the subject naturally divides itself into the following:

First.—We save maternal life.

Second.—We save fetal life.

Third.—We secure prompt recovery.

Fourth.—We diminish the amount of suffering.

Fifth.—We prevent the danger of swelling, impaction, and the subsequent inflammatory complications.

Sixth.—We avoid a frequent use of the repulsive operation of craniotomy.

### WE SAVE MATERNAL LIFE.

This saving of maternal life is remote as well as immediate, for we shall soon see that the early use of the instrument averts many results which may, and not infrequently do, prove fatal a considerable time after parturition has supervened. The appalling mortality charged by the older authorities to the use of the forceps is clearly due to the fact that the instrument was never used except as a last resort, and when the maternal powers were

\* Read before the St. Louis Medical Society.

already so exhausted by the long continuance of the labor, that death was inevitable from any additional shock. Under such circumstances, abandonment of the case or any mode of interference would probably result alike in the death of the patient, and it is not fair to charge the result to the use of the instrument.

If, however, we use the forceps before there are any evidences of exhaustion, we shall have no such sad record to make. It is the duty of the obstetrician to know when the unaided forces need help, and be ready to lend a hand.

#### **WE SAVE FETAL LIFE.**

This proposition is forced on us, even more convincingly than the one just considered, and I doubt not, will be clearly manifest in the experience of every one like the writer, who has changed his practice from rare to frequent use of the forceps. In the present state of the obstetric art, the forceps must be held for the benefit of the child, as well as the mother, and one who is skilled in estimating the condition of the child will often be able to save it by timely delivery. The proposition that "Danger is proportionate to delay," applies to the fetus as well as to the mother. The brilliant results, and the remarkably low mortality reported by some of our best men, justify the more frequent use of the instrument on the score of saving fetal life alone, and, without reference to the many other advantages accruing therefrom, I would have you bear in mind, however, that the above facts refer to the second stage of labor, and that I am not referring to the high operation when the fetus refuses to enter the pelvis.

#### **WE SECURE PROMPT RECOVERY.**

No one point has more fully and forcibly impressed itself on my observation than this, that women "get up," to use a common expression, after a quick labor better and more speedily than after a protracted labor. This result is due to the saving of the strength of the patient, and to the prevention of the bruising of tissue which accompanies protracted labor. In the nervous prostration which always follows, there is a sus-

ceptibility to both external and internal influences, which under other circumstances, would produce little if any appreciable effect.

Each successive contraction of the uterus in this depressed condition acts as a shock of greater or less intensity to the nervous system, and adds to the already commencing mischief. This we cut short by interference, and thereby avert the disastrous consequences resulting therefrom. The long-continued bruising of the muscular fibers of the uterus produces in it and the adjacent tissues a tenderness bordering on inflammation, which prevents, or, at all events, interferes with involution. This I believe to be a prominent factor in the slow recovery from tedious labor, and one, too, upon which little stress is laid in our systematic text-books.

How often, under such circumstances, do we find the uterus enlarged and painful? And even when it has reduced in volume so that it is no longer appreciable by abdominal touch, vaginal examination will show that it is tender and succulent, and still increased in its measurements. Who of us is there, also, who has not frequent occasion to observe that the soreness of the abdominal and perineal muscles is proportioned quite accurately to the tediousness of the labor?

While those painful and engorged tissue conditions continue, it is useless to expect a speedy recovery, and my experience is that I do not meet with such conditions by any means as frequently as under my former mode of practice.

There are of course many other and disturbing factors incident to the puerperal state that may produce the same result—Incomplete or tedious involution—but with them I am not now dealing. My object at this time is simply to emphasize the proposition, that in natural labor, without accidental complications, the ease and recovery turns very constantly upon the quickness of the labor, and that involution of the uterus is retarded by delay in labor.

#### WE DIMINISH THE AMOUNT OF SUFFERING.

If an anæsthetic be used, of course there is no consciousness of pain, and it may be said that we can secure this de-

sired result without using forceps. This is true so far as the mere sensation of pain is concerned, but we must keep clearly in mind the distinction between pain (suffering) and pain, contraction of the uterus.

By pain in obstetric language we so often mean contraction, that the words are used synonymously by most authors. Now while it is evident that we can prevent the suffering by an anæsthetic, it is equally evident that we cannot by it prevent contraction; and the damage comes not from the sensation of suffering, but from the often repeated and long continued contraction producing the bruising and infiltration of tissue, and exhausting the strength of the patient, as already described.

These conditions cannot be prevented by the anæsthetic, but they go on persistently, and even more insidiously with than without it. They, as well as the pain, are, however, arrested at once by terminating the labor, and to me it seems more rational to follow this course which prevents both pain and its results, than to adopt the other, which abolishes the pain alone.

But without any reference to the results of pain, I hold that it is our duty as physicians, to alleviate suffering wherever and whenever we can do so with propriety. I have no patience with those persons who claim that as labor is a physiologic process, we have no moral right to interfere with it. Before I can accept this dictum as a guide in practice, I have a right to demand that the standard or physiologic limit of pain be determined. But this is simply impossible, as we find that labor varies from a few minutes to many hours in duration.

Now it is self-evident that by assisting labor under appropriate conditions, we stop pain, and for this purpose, and this alone, in my judgment, one is authorized to employ the forceps. It is one's duty to assist the natural forces, and not replace them.

#### WE PREVENT THE DANGER OF SWELLING AND IMPACTION.

How often do we find the above condition existing when we are called to attend a neglected case. "No good obstetrician ever allows impaction to take place, if called in time to prevent it," and I wish to add that the best way to prevent the many

baneful complications is to apply the forceps before the tissues surrounding the pelvic outlet are contused and inflamed. Many of the pathologic conditions existing after a prolonged labor, which has as a last resort been terminated by instrumental interference, could have been obviated by an earlier resort to the proper use of the same means. Many lacerations of the pelvic floor will be prevented by the timely use of this invaluable instrument. It is my custom to remove the forceps just before the head emerges. I do this that I may have the use of both hands in manipulating the parts.

**WE AVOID A FREQUENT RESORT TO THE REPULSIVE OPERATION  
OF CRANIOTOMY.**

By the use of many conservative instruments devised, and our perfected surgical technique, I question very much if the obstetrician is ever justified in performing craniotomy on a living child. So seldom is the operation necessary, that few physicians are provided with the needed instruments. The intelligent use of the forceps has done more to bring about this happy condition of affairs than any other means at our command.

In conclusion, I wish to impress vigorously that labor is a physiologic process, and that under all ordinary circumstances delivery will be naturally and safely accomplished. I do not advocate the indiscriminate use of this valuable instrument. If a physician has not time to do obstetric work he may refuse engagements, or decline the call when it comes, but if he has once accepted the case he is bound professionally, morally, and legally to give to the woman and her unborn child all the time that may be necessary for her safe delivery, and no honorable and conscientious physician will do otherwise.

PERFORATING GASTRIC ULCER, AND OTHER  
CASES TREATED SURGICALLY. LOCAL SYN-  
COPE WITH HEMATURIA.\*

BY A. E. HAWKES, M. D.

Medical Officer to the Hahnemann Hospital, Liverpool.

I have recently been gently taken to task for asserting that the publication nowadays of so much surgical work, the excellence of which for the most part no one could question, was not calculated to help forward the principle of *similia similibus curantur*, and that medical cases ought more frequently to be brought forward.

When I went on to express some doubt as to the homeopathicity of much of the present day prescribing, the attitude of my opponent became somewhat more threatening, and he asked me, with some show of indignation, how I treated pneumonia and the like. With appropriate submission I retorted that I treated it in the same way as he did, and the brief controversy came to an abrupt conclusion.

And yet I venture some remarks on the later stages of disorders, such as one sees in a hospital, prefacing such statements with the general one, that whether these diseases are treated by this pathy or that, there often comes a time when medicine is no longer reliable, and when other means of attempting to save life have to be adopted. In a word, I consider, as I have often said, that the out-patient department and visits paid to the patients' own homes afford the practitioner better opportunities than any other of treating cases homeopathically, while observations in the hospital ward yield him more valuable insight into the later stages of many of the ills to which flesh is heir.

I will first present the following case:

E. M. S., aged thirty-seven, a domestic servant, was admitted into the Hahnemann Hospital on October 30, 1902, suffering from the effects of perforating gastric ulcer, which diagnosis had been made prior to admission.

\* British Homeopathic Society.

Stated briefly, the following constituted her history from the medical standpoint:

Her family history was void of suggestion. She had had influenza in addition to the ordinary children's complaints, and she felt well till early in the present year, when she complained of indigestion and abdominal distention. From that time she had lived on bread and milk, soup, and fish, very seldom indulging in anything more solid. Even porridge did not agree with her, and had to be given up as an article of diet.

A month before admission, drinking caused pain in the epigastrium, extending to the shoulders, and down the arms. She obtained no relief on these occasions until she vomited. At times the ejected material was quite clear fluid. All this was accompanied by headache—at the right temple—and restlessness. She had to slacken her clothes on account of distention. For a few days before the perforation she drank milk and other fluids, but took nothing solid.

The perforation took place at 9 P. M. on Wednesday, October 29; and arrangements having been made by telephone, she arrived at the hospital about 2 P. M. the following day, having crossed over from the Cheshire side of the river.

. After consultation the operation was proceeded with about 4.30, nearly twenty hours after the perforation had taken place. During the previous day she had taken a quantity of milk, and some beef juice; it is of less importance to note that she had also one or two enules administered. It is of the first importance to remark that no food was taken after 4 P. M., but a little medicine was swallowed just before 9 P. M., and immediately afterwards a sticking, shooting pain was felt at the epigastrium.

"Her breath seemed to go," she said, and she felt extreme pain, but she walked down stairs, and soon after was able to walk up again.

These extreme pains lasted all night, shooting, stabbing all the time, preventing sleep; a morphia injection and hot fomentations failing to relieve.

On admission, she was collapsed and cold. Her temperature was 96.4° F., and her pulse 130 per minute, very small, and the

patient was in great pain. Fortunately Dr. Edmund Hughes, the House Surgeon, was in, and the opportune arrival of Dr. John Hayward, who rendered most valuable assistance, enabled me to operate without further delay.

An incision in the middle line, the cicatrix of which now seems very insignificant, quickly brought us to the viscera concerned. The fortunate circumstance, so fully referred to, as to dietary, accounted for the fact that the escaped gastric contents were very scanty, but it was noticed that already the neighboring viscera were covered with lymph.

The perforation was small, admitting only the tip of the little finger, but the tissue was friable, and the silk sutures had to be carried somewhat wide of the perforation, as they more than once tore through.

So soft were the parts in question, that at Dr. John Hayward's suggestion some omentum was stitched over the rupture, thus forming a somewhat firm buttress.

Silk-worm gut was used for the epigastric wound, after a fairly copious washing out. A gauze drain was thought necessary and employed.

The effects of the operation were very marked. There was very little vomiting, the temperature rose to 99.6° F. next day, and the pulse fell to 104. The pulse, indeed, shortly afterwards—the next afternoon—fell to 56 per minute, and a dose or two of strychnine had to be given hypodermically.

For several days, in view of the condition of the perforated portion of the stomach, she was sustained by means of enules and nutrient enemata of Bovril, eggs, cream, and corn flour made with milk. She subsequently took peptonized milk, and gradually the diet was improved. I regret to say that some suppuration took place, the discharge coming from directions not easily traced.

Whether the somewhat irritable state of the skin, from slight counter-irritation, rendered it difficult to properly cleanse it, or whether the process of cleansing was more quickly done than was consistent with efficiency, I do not know.

The cutting of one or two of the stitches, and dressing the wound with calendulated boric acid succeeded, and our anxiety on that score soon ceased.

Subsequently her temperature rose a little, she complained of cough, and stitches in the left side, and a certain amount of pleuritic effusion was discovered.

Bry. canth., and afterwards sulphur, constituted the medicinal treatment. Her recovery was complete, and she seemed in excellent health when last she presented herself.

I must not refer at length to the literature that has accumulated, but if you have received a copy of the recently issued report of the Royal Southern Hospital, you will find on page 50 a paper by Mr. Robert Jones on the subject. He saved three cases out of four requiring operation.

The successful issue of the case narrated was due to the smallness of the gastric contents, the speedy diagnosis, and last, but not least, efficient help at the operation. But even twenty hours is too long, and Mr. Tobin, of Dublin, deprecates removal from the house on account of its danger.

Whether the time is at hand when the family practitioner will rely on "boiled towels, cocaine, a few forceps, domestic needles, and thread," and, I presume, such local help as he can get, I do not know, but Mr. Jones ends his paper with such a hint, on the ground that "many a life has been lost in transit from home to hospital."

I gather from Mr. Jones's paper that deep suppuration occurred in his fatal case, as well as some pleurisy. No one can say where the pus came from in my case, but obviously every hour's delay adds to the danger of sepsis.

With much brevity permit me to refer to a case or two of intestinal obstruction. Here the fatal effects of delay are forced upon our notice.

On Friday, August 15, 1902, I saw about mid-day a woman aged fifty-nine, a domestic servant. Her face was pinched, her skin cold, her abdomen was much distended, and the bowels had not been moved since the previous Monday. She was vomiting a brownish watery fluid, not particularly offensive. Within a couple of hours she was removed in an ambulance to the hospital, and, enemata proving useless, after due consultation I opened the abdomen.

We first removed the appendix, the extraordinary shape of

which you will notice, but no rupture, however small, was discovered in it. The intestines were greatly distended, congested, and dark-colored.

The cause was speedily discovered in the shape of a band, almost occluding the small intestine, close to the head of the cæcum. This was divided, and, as it was nearly impossible to return the distended intestines into the abdominal cavity, at the instigation of Dr. Cash Reed the small intestine was incised, as recommended by Greig Smith.

Much flatus and fluid fecal matter having thus been allowed to escape, the wounded intestine was carefully sutured, and, with due precautions as to cleanliness, the viscera were replaced and the abdomen closed.

She survived several hours—about eighteen—death being preceded by the escape of a large quantity of blood-colored fluid from the bowel.

It is not for me to say what would have been the result of the operation had it been undertaken earlier.

I have recently seen a case simulating intestinal obstruction where the pain was very extreme, the vomiting persistent, and the patient anxious. But the patient, a man about forty-five years of age, could bear some pressure; moreover, the pain was paroxysmal, the pulse was not always rapid, and the sufferer would at times writhe and turn, and occasionally assume the knee-elbow posture.

The pain was much aggravated by pressure over the left renal region, and I believe that the exhibition of berberis  $\varphi$  was of great service. An enema was fairly successful, and helped to differentiate. The welcome escape of a small calculus, too smooth to cause hematuria, together with much detritus, cleared up any doubts as to the true nature of the case. The paroxysmal pain of gall-stone colic, radiating from a center, during which the patient sits up in bed wearing an agonized, pallid look, and often breaking out in a profuse perspiration, needs only to be observed to be distinguished. Still the most experienced physician is seldom above taking comfort from the finding of the gall-stone, often in fragments, thus confirming his diagnosis.

It would be unfair if I did not mention another recent case.

A young woman, aged twenty-two, was admitted into hospital on September 14, 1902, suffering from intestinal obstruction which had continued for some days. She was cold and collapsed, and no effort had availed to relieve the bowels. Although an enema had been administered, another was tried, but without success. She was vomiting, and there was abdominal distention, but no localized pain.

The symptoms were deemed urgent; a consultation was held late at night, and as soon as the patient had rallied sufficiently, the abdomen was opened. The appendix, which was firmly adherent, but otherwise innocent, was removed first, and then other abnormalities searched for. Nothing was found, and to our great regret the patient only survived some twelve hours.

At the subsequent examination, it was discovered that a portion of the small intestine, about twelve inches long, was the site of a non-ulcerative enteritis, leading to—as it eventuated—a fatal torpor, simulating actual obstruction in every particular.

As a contrast, I may mention that some little time ago I was asked by a colleague to see an old lady, aged eighty-five. She was vomiting, and complained of the usual pain associated with hernia—left inguinal in this case. The hernia was irreducible. Her state was fairly encouraging, and as it was late evening, and a good light not available, we put off the herniotomy till early the following morning.

With the indispensable help of colleagues, the operation was quickly done, and the old lady made an uninterrupted recovery, but a mild senile dementia, so well known after operations on the aged, supervened, but that condition did not last very long.

In conclusion, I feel I must give expression to the hope that my failures may lead to the success of others, if similar cases present themselves.

## **Current Comment.**

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H. C. Lee, M. D.:

No general agreement on the question of *Curettage for Puerperal infection* has as yet been arrived at, but there is no doubt that the value of curettage depends on its influence over the bacterial invasion of the uterus. Puerperal sepsis is essentially a wound infection, and in general the uterus the part first infected. Clinically, the results of infection depend on—(1) the period at which infection occurs; (2) the site of infection; (3) the infecting organism; (4) the virulence of the organism; (5) the local conditions present in the uterus; (6) the resisting power of the individual. The following conclusions are justified by our present knowledge of the bacteriology of the uterus:

1. The uterine cavity is sterile during the first week in normal cases. Organisms are often found later, but they rarely have any pathological importance.
2. If the lochia are sterile, intra-uterine infection is not present, but the vagina or perineum may be the source of infection.
3. If streptococci are found in the lochia, a diagnosis of streptococcal infection of the uterus may be made, but we have no means of judging of the gravity of the infection, as there are many varieties of this organism, some of which are not pathogenic.
4. Staphylococcal infection may be present alone or mixed with streptococci; the former may be only saprophytic, and may obscure the growth of the latter.
5. The *Bacillus coli communis* may be present, and has great powers of tissue invasion, especially if associated with streptococci. In this case the lochia will be offensive, which is not the case with pure streptococcal infection.
6. If only anaerobic bacteria are present, there is probably decomposition of some retained products in the uterus. Supræmia commonly results from this, but it must be remembered that some of these organisms have the power of invading the tissues.

7. Along with saprophytic organs streptococci may be present, and the virulence of the streptococci is apt thereby to be greatly increased. From these researches it appears that the old distinction between supraæmia and septic infection does not hold absolutely good, for Jeannin has shown than in putrid puerperal infection grave infection may occur from the association of streptococci with saprophytic organisms or from the latter alone. It is believed, and Krönig has shown, that anaerobic bacteria and the *B. coli* do not enter the blood-stream, but they may, however, enter the lymphatics and produce lymphangitis and peritonitis.

The uterus during the first week of the puerperium.—As a rule, the cervix quickly closes, and will admit the finger with difficulty after three days. In infection of the uterus, however, the cervical canal remains patulous, and Budin has emphasized this fact as an infallible sign of infection. The cavity of the uterus presents an irregular wound surface with its placental site showing small clots and thrombosed sinuses, and the rest covered by the shreddy remains of the decidua, and deepest parts of the uterine glands. This cavity, then, is difficult to cleanse, and is eminently favorable to the absorption of toxins or for the growth of bacteria. Even at the eighth or ninth day, although the lining membrane is almost entirely restored, it is still delicate and easily infected.

Pathological anatomy of puerperal infection.—In putrid endometritis, and cases where decomposition is occurring in the uterus, the decidua becomes necrotic, and is infiltrated with enormous numbers of leucocytes. These constitute a protective layer, and, as a rule, prevent infection of the uterine tissues, although bacteria are found on the surface. In septic endometritis, however, the protecting layer of leucocytes is but feebly developed, and bacteria may be found penetrating deeply, or occupying lymphatics or thrombi, especially over the placental site. In this case the main factor in determining the clinical course of the case is the virulence of the organisms, combined with the local conditions present, and the resisting powers of the individual. The site of infection, too, is of utmost importance, the placental site obviously offering the most favor-

able soil for the growth of bacteria. The time of infection, too, is of great importance; streptococcal infection before delivery is most grave, and infection at delivery is much more grave than at a later date. Streptococci will undoubtedly penetrate the uterine wall at a great rate, but we have no clinical means of determining how deeply they have penetrated in a given time. Thus we have no data to go upon as to whether the result of the use of the curette in such cases will be good or not.

The curette may be used in the puerperal uterus either as a substitute for the finger to remove placental remains, membranes, or clots, or to remove the whole lining of the uterus for the purposes of disinfection. In putrid endometritis experience shows that the finger can often do all that is required, but advocates of the curette point out that this instrument does much more effectually remove retained products of conception. The advocates of the curette advise the complete, early removal of the whole lining of the uterus with a moderately sharp instrument, even in cases of septic infection. They say the operation is practically safe, and, if adopted early, severe and fatal infections would be rarely seen. The opponents of the use of the curette urge the following objections:

1. Risk of perforation, as the uterine wall, especially at the placental site, is subinvolved and softened. It is, however, shown, by large series of cases by Kénard, Doteris, and Weiss that this need never happen if a large broad instrument is used from above downwards, with the uterus controlled by a hand outside.

2. Danger of air embolism.—This accident has occurred from detachment of a large thrombus, but is not likely to occur if the operation is performed after the third day.

3. Profuse hemorrhage does certainly occur if curettage is done in the early days of the puerperium, but can always be checked by gauze packing.

4. The impossibility of removing the whole infected area of the endometrium. It has been shown by examination of uteri removed after curettage that strips and islands of endometrium do remain untouched by the curette, and on this ground the instrument is opposed by Menge. Nevertheless, the great bulk

of necrotic tissue is certainly removed by the curette, and the supply of infective material is thus much diminished. No doubt this is the explanation of the benefit which so often occurs after the operation.

5. The risk of causing generalized infection.—This is the gravest objection to the curette, for it must open up areas of probably non-infected endometrium, and if the uterine cavity cannot be thoroughly disinfected, the opened vessels and lymphatics may become the seat of new infection and the patient's condition thus made worse. The German authorities in general object to the curette, as they believe that the protecting layer produced by nature will thus be removed. It is, however, doubtful if the curette does remove this, and, as has been shown in virulent infection, the protective layer is but feebly produced.

The sphere of usefulness of the curette must be judged by clinical results, and various authors describe cases in which fatal results have followed its use.

The curette is certainly contra-indicated.—(1) In virulent streptococcal infections where general infection occurs in twenty-four to thirty-six hours. (2) In general septicæmia, and cases where the infection has obviously spread beyond the uterine mucosa. (3) In peritonitis or inflamed appendages its use is probably futile, but the curette may be used as a preliminary to some more serious operative measure, such as incision of the posterior cul-de-sac and drainage. (4) In gonorrhœal puerperal endometritis, which do not as a rule threaten life unless the infection is mixed.

Repeated curettage is advised by some authorities if the symptoms recur after a first operation from which some improvement accrued.

The after-histories of cases curetted for puerperal infection are difficult to get, but at all events one observer, Ferré, traced a number of cases which were simply treated by uterine irrigations, and found that in the majority some lesion, such as sub-involution and chronic metritis, remained. On the other hand, of thirty cases curetted he traced eighteen, and found that all had made good recoveries.

In conclusion, I believe that in "putrid infection" with re-

tained products or decomposing decidua, the curette is only necessary when the finger will not remove all the retained débris. In such cases the curette can do no harm if carefully used. On the other hand, in septic infection, curettage to do any good must be performed early, thoroughly, and be followed by the application of a strong antiseptic, such as 30 per cent alcohol, creosote and glycerine (1 to 5), carbolic acid (1 to 20), and tamponade with gauze.

Cases must be wisely selected—only those in which the bacteria have not penetrated deeply will be improved by the operation—and the possibility of producing a generalized infection must always be remembered.

A procedure apparently devoid of danger is the use of the "écouvillon" or brush curette of Budin. It is shaped like a bottle-brush, having short, stiff quills set in a twisted wire. It is used to clear out the uterus by vertical and rotatory movements. It apparently does not give the same chance of opening up sinuses or lymphatics as the sharp curette, and can be used until the whole endometrium is quite smooth, being followed by flushing out and gauze packing.

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W. A. Briggs, M. D.:

If in a woman thirty years of age and upwards, one who has borne children, we find the os patulous, studded with nodules, the mucous membrane offering resistance as if firmly adherent to the tissues beneath, and if with these symptoms we have hemorrhage the first symptom, and this followed by leucorrhœa streaked with blood, I think *Cancer of the Uterus* should be suspected, and that we should advise our patient of the necessity of a microscopical examination and recommend the services of a pathologist. Personally I believe the leucorrhœal discharge, streaked with blood even, often precedes the hemorrhage, although the rule is that it follows the bleeding. Of course the characteristic symptoms are hemorrhage, discharge, and pain. Pain, we know very well, may be absent early in the disease, and even throughout its entire course. Therefore absence of pain is not important. In 98 per cent. of the cases of cancer of the uterus, in those

who have borne children, the disease is located in the cervix in preference to the body of the organ, which facilitates the diagnosis. If it has shown a marked effect on the woman's health, I do not think we should wait for the appearance or stage of cachexia, as the early diagnosis is the important thing. We know very well that in these cases the prognosis is favorable under an early and thorough extirpation, and under no other treatment have any permanent results been obtained at all. Should these symptoms persist, even though the report of the specialist be negative, the patient should be advised, in my judgment, that the real danger lies in delaying the removal of the growth. It is here that we should strive to have our patient realize that the danger is from the disease, not from the operation to remove the disease focus, and which, performed early, goes well into healthy tissue, which heals readily.

I have had the opportunity to witness two cases that demonstrate the importance of this to my entire satisfaction. One was a woman aet. about forty-five years; her physician had told her plainly that, while he could not say positively that the growth was malignant, radical treatment was all that he could offer, and referred her to a surgeon. She subsequently went to San Francisco, and received similar advice, which was also given on her coming to Sacramento. Both she and her husband had such dread of the knife that she decided to go under the so-called caustic treatment of one of our notorious quacks. At first she was temporarily relieved; but the treatment growing more painful, she again sought advice, dreaded to accept the offer of surgical procedure, notwithstanding she was given to understand that at that late date she could not hope for much more than temporary relief. This patient often told me subsequent to her operation that any one of her previous "treatments" caused her greater suffering than did the operation.

A short time thereafter I was called to a case as nearly identical as could well be, except that the patient was about five years younger. She had just had her second severe hemorrhage. Having the above case fresh in mind, I related it to her briefly, and advised consultation, which was accepted. Dr. G. A. White saw the case with me, and concurring in my

views, advised surgical procedure. The patient went to the hospital that evening, and was operated the next morning. She insisted that she did not have a pain during her time in bed after operation. This was about eighteen months ago, and the last time I saw her, she was doing her housework, requiring by the way, considerable stair-climbing, and was healthier than for a number of years.

It is hardly necessary to say that the first case terminated fatally, though she lived between six and seven months, during the first half of which period she was comfortable so far as pain was concerned. The bladder and rectum were involved at the time of the operation.

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George B. Somers, M. D.:

For the past two years I have effected the *repair of the perineum by continuous removable sutures*, using a method that has given me more satisfactory results than any of the classic methods that I have tried. While the principles involved are not new, I am not aware that they have hitherto been combined in just the form here presented. At the same time, the method is so simple and the results so uniformly good that I believe the technique is worth demonstrating.

The three classic methods of restoring the perineum are Tait's, Hegar's and Emmet's, but it has been my experience, that, no matter what operation was tried, or what materials for sutures were used, it was always the sutures that gave most trouble; they failed to hold, or cut into the tissues, or produced stitch-hole abscesses, or, in some cases where silkworm gut was used, even buried themselves completely. That others have found the same trouble is shown by the numerous ingenious sutures that have been invented, and the numerous attempts that have been made to improve the technique of perineorraphy. Besides the sutures, the other important part of the operation is the denudation; and the two questions that I wish to discuss are: (1) What is the best method of denudation? (2) What is the best method of suturing?

In speaking of injured perineum, I wish to include in the

term all those conditions which are understood as being present in relaxed vaginal outlet. Besides injury to the perineal body, there is usually some injury to the levator ani muscle; more or less stretching of the tissues about the opening; a scar, median or in one of the sulci, and a rectocele. When these conditions are present, the majority of authorities have accepted Emmet's operation as the best for restoring the tissues to their normal condition.

In the face of the strong convictions of a large part of the profession, it is a bold undertaking to criticise Emmet's operation, but I have as yet failed to find any authority who explains clearly why Emmet's operation is superior to others, or who demonstrates the correctness of its principles. On the other hand, I believe that a study of the perineum and of the pathology of injured perineum will show that the principles of Emmet's method are faulty.

If we examine a longitudinal section of the so-called perineal body, we find that the thicker portion is made up of several muscles, which meet in a common tendinous center. The narrower portion, more deeply situated, contains a considerable bundle of levator ani fibers.

If the perineum is lacerated, the ruptured ends of these muscles retract, diminishing the thickness of the body in proportion to the injury to the muscles. If the perineal muscles alone are injured, leaving the levator ani intact, no serious results follow; but if the injury is deep enough to involve the levator ani, then, instead of a body between the rectum and vagina, there is left merely a septum, and conditions become favorable for the formation of a rectocele.

The septum consists of a layer of rectal mucosa joined to vaginal mucosa, without the intervening muscle-fibers. Whether the injury is in the median line, or laterally in one of the sulci, the structure is the same. If for instance, the levator ani is torn on one side, the short ends retract on the injured side. The long ends, that run across between the vagina and rectum, either retract at once to the opposite side, or, with the bulging of the rectocele, become so stretched and attenuated as to have little or no strength. The rectocele, then, is not a

normal structure, does not contain, intact, the divided fibers, and no part of it can be made use of in restoring the tissues of the perineum to their normal relations.

In the Emmet operation a portion of the rectocele is perpetuated, for the most prominent point is grasped, drawn taut, and the denudation made on either side of it. In Emmet's original description he says: "The first step is to seize with a tenaculum the crest of the presenting rectocele, or the posterior wall of the vagina, at a point where it can be drawn forward without undue traction to near the entrance of the urethra; then the operator is to hook up with a tenaculum the lowest caruncle, or vestige of the hymen, and then bring the three tenacula together. When this has been done, it can be seen at a glance what tissues are to be united together."

This device draws the tissues together so as to restore the normal appearance of the vaginal outlet. It brings out prominently two deep sulci on either side of the rectocele, and, apparently, in order to restore the parts, the sulci merely need to be obliterated. If this is done, as in the inverted denudation of Emmet, the restoration is superficial. The injured tissues are not restored to their normal relations. Instead of uniting them directly in the median line, they are sewed to the intervening tongue of rectocele, which has been preserved.

Again, grasping the crest of the presenting rectocele tends to perpetuate its sac, whether this point be drawn down towards the vaginal outlet or lifted up toward the urethra.

My objections to the Emmet denudation are: (1) A portion of the rectocele is allowed to remain; (2) the ruptured ends of the fibers are not directly united, but are sewed in two places to an intervening thin septum; (3) the inverted W denudation is unnecessarily complicated, inasmuch as it requires the approximation of several different surfaces.

If one were to work out a method of repairing the perineum uninfluenced by authority, the most natural thing to do would be to restore the parts as nearly as possible to their former relations. In order to do this, the rectocele would be pushed back, and the retracted fibers brought together in front of it. The denudation necessary to accomplish this would take the form of a simple triangle, such as is used in the Hegar

operation. My reasons for preferring the triangular denudation are: (1) It allows the rectocele to be pushed back; (2) it allows the injured muscles and fibers to be directly united; (3) the denudation provides only two plane surfaces to be approximated.

The question regarding the method of suturing is fully as important as the denudation. In the treatment of wounds, it is an axiom of surgery that tissues cannot be forced to unite. The ideal suture holds the tissues in apposition without force and with the least possible interference with circulation. The interrupted suture is objectionable for several reasons. Sutures that are tied necessarily interfere more or less with the circulation; produce puckering of the tissues, so as to leave dead spaces; are unyielding, so that if swelling occurs, they cut into the tissues. I believe that a large proportion of the failures to get immediate union in perineorraphy is due to the interrupted suture. The stitch abscess, the infection, the separation of the flaps and tearing out of the stitches, are due partly to tying off the circulation, and partly in not providing an elastic stitch, to allow for swelling. The ordinary continuous suture is free from most of these objections. Martin has recognized the value of this suture, and in his operation not only uses the triangular denudation, but builds up the perineum with a continuous catgut suture. This stitch, however, is not elastic, and is not aseptic. As Burrage remarks, catgut, "even in the hands of the best operators, becomes infected every now and then, resulting in failure of the operation."

In place of catgut I have accordingly used silkworm gut as a continuous suture, inserted so as to allow for swelling and so as to be easily removed.

Following is the technique: Starting in at the apex of a triangular denudation, a suture is inserted wth a mattress stitch in the deeper portions of the wound, coming out on the perineum at the lower angle. While being inserted, the upper end is clamped and held with a hemostat. A second is inserted in similar fashion to the first, but starts in near the edge of the denudation, a quarter inch below the apex, and emerges to the perineum about a quarter inch above the lower angle.

A third and fourth are likewise inserted, which are usually

sufficient to close the denudation completely. It is a little better to insert the last three sutures on alternate sides of the denudation, and have them emerge correspondingly on the perineum. After the sutures are inserted, the upper ends are held in a single hemostat, while the lower ends are drawn taut, ready for clamping with shot.

The most important feature of the method is that the ends of the sutures are left long. No knot is tied. They are clamped with shot, from half an inch to an inch away from the surface. I am in the habit of including *all* of the vaginal ends in one shot, as it facilitates removal. The sutures keep the surfaces firmly together without tension and without interference with the circulation. If any swelling occurs, it simply takes up the slack, the tissues sliding along the free ends toward the shot. At the end of ten days, the sutures within the vagina are cut off close to the surface. The perineal ends are then grasped, and the sutures pulled out.

I have now operated after this method in twenty-eight cases, four of recent tear, twenty-three cases of relaxed vaginal outlet, and in one case of complete rupture of the perineum. In the latter case, the triangular denudation was extended far enough to expose the ends of the sphincter. These were first united with chromicized catgut, and then the continuous suture was used as above. In recent cases, of course, no denudation was necessary. In three cases infection took place, with considerable swelling of the tissues and discharge of pus from between the flaps. The sutures, however, remained in place, as they allowed amply for swelling. A daily vaginal douche was given, and soon the inflammation subsided, the tissues remaining in contact, and the final results being as good as in any of the other cases. I am sure that these three cases would have been failures had interrupted sutures been used. Of twenty-eight cases, then, which I have on record, but of which I have not considered it worth while to detail the histories, all have been successful. As to the appearance of the perineum: It is peculiarly free from cicatrices and irregularities, and, owing to the rapid and direct union of the tissues, is thick and strong. The advantages of using the continuous remov-

able suture are: (1) Small number of sutures used; (2) the circulation is not constricted; (3) the surfaces are brought together without tension and without puckering; (4) union is therefore rapid; (5) the sutures allow for swelling; (6) they are easily removed.

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Robert D. Rudolph, M. D.:

A most extensive report upon the use of *antitoxin in diphtheria* has been published by Dr. Otto Jelinek. He has collated the reports of all observers in all parts of the world. From an analysis of 52,521 cases, showing a death-rate of 15.28 per cent., he gives the following convincing figures:

Those treated with antitoxin on the 1st day had a mortality of 5.07 per cent.
" " " 2d " " 8.49 "
" " " 3d " " 15.56 "
" " " 4th " " 23.36 "
" " " 5th " " 30.02 "
" " " after the 5th " " 23.36 "

This table includes cases from all parts of the world, in all climates, in hospitals and private practice, amongst the poor and the well-to-do.

Other reports tell the same tale of mortality reduced in proportion to the earliness of use and the quantity of anti-toxin given.

In all institutions devoted to the care of children, diphtheria is a frequent and dreaded scourge, and the Victoria Hospital for Children has been no exception. In spite of every precaution which could be thought of, the institution has almost constantly had some diphtheria in it, and the superintendent informs me that during the five years there have never been two successive weeks in which the disease has been completely absent. An increase in cases occurred June, 1902, and threatened to become most serious.

In the first week in July every individual in the hospital was given an immunizing dose of from 300 to 500 units of antitoxin, and the dose has been repeated every three weeks since. There are, on an average, 165 souls in the institution. Every new patient has been given a similar dose on admission, and every three weeks thereafter. The result has been

most gratifying. Not a single case of diphtheria has occurred in the hospital since the immunizing treatment was commenced, that is, for a period of over five months. During this time the usual number of cases have been occurring elsewhere in Toronto.

Dr. Goldie, the bacteriologist, has on several occasions during the last few years examined swabs taken from the throats of healthy inmates of the hospital, and has always found that a considerable percentage of them showed the Klebs-Loeffler bacillus. He has made similar examinations recently, and finds that, as before, a percentage of apparently healthy throats show the bacillus. Thus the germ is present, but its hosts are immune, and hence no diphtheria occurs.

As regards the safety of using these immunizing doses of the serum, our experience has also been in accord with that of most observers. Altogether upwards of 1,000 doses have been administered by the resident physicians of the hospital. They have been given to patients suffering from all kinds of disease, and yet in no instance have any serious symptoms been produced. Not a single local abscess has occurred. A certain percentage of the cases have shown eruptions, and in three instances these have been petechial. It is interesting to note that the resident physicians have found that the eruptions occur almost exclusively after the first injections; a few have appeared after the second, and none later on. This point does not seem to have been remarked before.

Our experience would lead us to the conclusion that:

Every case of diphtheria should be treated with antitoxin. As a rule the diagnosis is easily made clinically, and it is better in such cases not to wait for the bacteriological report, but to inject the serum at once. Then, if the diagnosis is confirmed by the bacteriologist, one has "stolen a march" of several hours on the disease; if the case proves not to have been diphtherial, one has at least done no harm.

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Lewis H. Marks, M. D.:

I cite the history of this case of *Hemiplegia Complicating Pregnancy*.

On November 29, 1902, I was engaged to attend Mrs. P., age 42, during her approaching confinement, and in accordance with my usual custom, called to ascertain something of her past history and her present condition. She was the mother of nine children, five of whom are living, and had never experienced any difficulty in her previous confinements. Her weight was approximately two hundred. The abdominal walls were very much relaxed and pendulous. To add to her already ample proportions was an umbilical hernia of moderate size, which was kept in abeyance by an abdominal support.

About two weeks previous to my call patient had an apoplectic stroke, which affected the entire left side. While at breakfast she suddenly became aware of an inability to use the fingers of her left hand. Her tactile sense was impaired, and speech was defective for two days. The numbness of the left side remained for two months after labor. On inquiry I found that her father had had three strokes. At my first visit patient informed me she was over time fully three weeks, and seemed much concerned over her future. Urinalysis revealed no lesion of kidneys, or bladder. December 9, or ten days after my first visit, I was summoned about 11.30 P. M., as her pains were becoming very severe and regular. Examination externally and per vagina revealed the child in L. O. A. position. Os was moderately dilated. Progress was very slow, and the pains seemingly produced nothing more than a globular or pear-shaped protrusion of the abdominal walls.

At 6 A. M., on further examination, I found the os fully dilated, but almost absolute immobility of the child.

No obstruction was noted from tumor, pelvic contraction, or neglected bladder or bowels. The child's head was not considered to be a causal agent of the delay. I at once decided that instrumental delivery would be necessary, as the pains were lessening in force, and the mother becoming much exhausted. A large male child, weighing twelve and one-half pounds, was delivered under chloroform. Three days after the mother had a temperature of 100.3, which reached 102.4 on the fifth day. On the sixth day she had irregular chills, and complained of pains in the region of the bladder, and also in the external

genitals, with difficulty in urinating. On examination, I found the right labia and adjacent parts very much swollen, red, and very tender to the touch. The vaginal wall bulged on the affected side.

A diagnosis of hematoma with secondary abscess formation was made. The patient at this time stated that at the time the anæsthetic was about to be given she noticed a sensation of something giving away, which evidently was the truth. Fluctuation being present, a free incision was made, and a large amount of pus evacuated, after which the abscess cavity was thoroughly irrigated with hy. bichlor. 1-2000, and packed with iodoform gauze.

Temperature became normal, the difficulty of micturition became less, and speedy resolution took place.

This case developed the presence of a structurally weak circulatory system, and the possibility of an inherited tissue weakness.

A question of interest is this: Inasmuch as the uterine nervous supply comes from the gangliaed cords of the sympathetic system and sacral nerves, could not be continued gestation and the inability to terminate such be due to defective innervation secondary to the hemiplegia?

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George St. Johnston, M. D.:

The following case may have an interest bearing on the treatment of *eclampsia*.

On February 11, I attended a Mrs. U. in her fourth confinement, the last child having been born eight years previously. She had suffered much during the latter part of her pregnancy from great abdominal distention; otherwise her health had been good. There was no oedema of the legs or other signs of kidney mischief, except occasional severe headaches. Her urine was tested in November, 1902, and found free from albumen or sugar.

Labor was slow, and no presentation could be detected at first, owing to excess of liquor amnii, which on rupturing the membranes escaped in large quantities, and which I should estimate at 3 quarts. Chloroform was administered and forceps

applied, the child being delivered with the greatest difficulty, both head and shoulders offering great resistance. The child weighed 11 lb. 2 oz. and was stillborn. The patient did very well for two days, but on the third day (February 13) she had a severe headache, pulse and temperature being normal. At 9:30 P. M. I was hurriedly called and told the patient was dying. On arrival I found she had suddenly been seized with violent convulsions a short time previously, and was in a deeply comatose condition. Severe convulsions recurred every ten or fifteen minutes without any return to consciousness.

Dr. Purslow kindly saw her with me, and we gave morphine, hypodermically; and transfused a pint of saline solution into the subcutaneous tissue of her abdomen. The effects were striking, for in about ten minutes she passed into a quiet sleep lasting for three hours, and free from stertor. She awoke semi-conscious, and in a few minutes had another severe convolution, followed by deep coma, the fit was repeated in half an hour, and coma even more pronounced, with a pulse of 120.

At this time her condition appeared quite hopeless, but as a last resource I again transfused, and with the same beneficial effects, for in a quarter of an hour she was quietly sleeping, and the stertorous breathing, which previously could be heard all over the house, had entirely disappeared.

She had one more slight convolution some hours later. Her urine was drawn by catheter, and found to contain a light cloud of albumen.

During the next twenty-four hours she was very delirious, throwing the clothes off, and attempting to get out of bed. This was followed by a good night's sleep, and next morning she awoke quite rational.

The points of interest in this case to my mind are the striking results of saline transfusion; and, secondly, the violent delirium next day, which I took to be partly due to the extremely diluted condition of her blood.

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W. M. Polk, M. D.:

In managing cases of *procidentia*, one must conform to some extent to the prejudices of the patient, and as these are nat-

urally against operation, non-operative measures should claim our first attention. If the patient has a good perineum, there can be no disputing the utility of a pessary, or of securing involution by rest and treatment. One should not lose sight of the general enteroptosis that is so often an accompaniment of this condition, more especially in multiparæ, but should meet it with appropriate treatment, such as massage, exercise of the abdominal and body muscles, and the support of the lower segments of the abdomen by proper binders. In spite of all this, some will undoubtedly come to operation. In laying before these patients the alternative of operative and non-operative measures, we must be governed by the degree of the prolapse and the question of child-bearing. Obviously, an active organ requires more consideration than one which has become permanently functionless.

I advocate amputation of the cervix rather than its repair. I do this because by so doing you gain a greater reduction of the size and weight of the uterus than by mere repair. In this connection, I must call attention to the value of a similar shortening of the retro-sacral supports. This procedure, difficult of performance, and of doubtful value in retro-displacements, is easy and serviceable in procidentia, the results being proportionate to the prominence which those structures possess in any given case. I know that they are more prominent in some cases than in others, having originally a greater development, and consequently a more prominent part in sustaining the uterus.

When amputating the cervix, it is a simple measure to successively bring each ligament into a posterior vaginal opening, and secure therein a ring or fold, using a hook to draw down the structure within easy reach of manipulation. The open and relaxed state of the passages renders this a measure of comparative ease.

Turning to the perineum, we must understand that here we are really dealing with the outlet of a hernia, for that is what prolapsus uteri is, and that efficient repair here cannot stop short of restoration of the structure concerned in guarding the "ostium vaginæ." No operation avails except it be complete

closing of this opening (one not to be considered excepting in very rare instances in old women) or some procedure which reaches and actually approximates that part of the levator ani muscle, which surrounds and holds up the lateral and posterior segments of the ostium. I know of no way of attaining this but by an anatomical dissection of the region in question, by which we separate the vagina from its posterior and lateral connections up to its contact with this muscle, and then define and approximate all that edge which formerly surrounded the lower segment of the vagina. This involves a more or less extensive inversion of the ischio-vaginal and ischio-rectal spaces, but one that can be made with impunity by the aid of our modern technique. The approximation of the separated edges of these muscles can be best made with buried sutures; I need not describe these.

But suppose retention of the uterus be a minor consideration, as in old women; then substitute for Alexander's operation ventro-fixation of the uterus or the stump of the uterus; I say stump of the uterus because in old women, with complete eversion of the vagina, and prolapse of the bladder, ventra-fixation of the uterus will not suffice. There is too much elongation of the vagina, too much slack, and again, the uterus is so much of an elastic organ, so given to stretching that it will elongate, and suffer the vaginal prolapse to recur. Avoid this by removing the uterus, and attaching the cervix or vagina to the abdominal wall.

Turning, now, to the retro-displacements, we come to a most interesting class of cases, for they are common and lead to treatment, often giving brilliant results to comparatively simple measures. The significance of this deformity depends less upon its anatomical features than upon its symptoms. Unquestionably, some women bear this defect with impunity until marriage, pregnancy, or the subsequent period of involution are encountered. It depends upon the position of the associated ovaries, and upon the state of the circulation of the uterus. When this latter is impeded, you sooner or later witness those changes in the endometrium, and in fact, throughout this organ, which are familiar to you, and if there be prolapse of one or

both ovaries, the combined state of local and general distress it at times most severe. If, to the prolapse of the ovaries, and congestion of the uterus be added fixation by adventitious band, a state of affairs exists which no one can withstand.

Suppose we find a woman whose uterus is retroverted, and perhaps flexed, and yet she is free from symptoms; shall we molest her? I am sure we should not unless she be married, and then we need not go further than to acquaint her with the nature of the difficulty, so that should she become pregnant, or if such symptoms as backache, occipital pain, with nervousness, dysmenorrhea or metrorrhagia appears, it may be treated. How should this be done? By pessary, or an operation? Here, as with procidentia, the patient may answer the question for you, but assuming that you are free to act, what course is best? If the uterus and its appendages are free, a pessary should always be tried, for this reason, that if we can reduce the uterus in size, it may remain forward. Any retro-displaced organ giving rise to symptoms is certain to be in a state of subinvolution. If it is enlarged and has a heavy fundus, replace it and hold it in place for two or three months by means of a pessary; then withdraw the latter, and watch the result. Remember the importance of regulating the retro-abdominal and pelvic pressure in these cases; and make it your business to see that the abdomen is held up by the patient's own muscles, if they can be utilized, or else by outside support, such as an abdominal bandage. Here again proper support of the figure is of vast importance, for in those that are stoop-shouldered or who maintain a doubled-up position, with its accompanying downward and backward pressure of the contents of the lower abdomen and pelvis, all these things help to defeat your effort. Build up the entire muscular system while your patient is under observation, and insist upon free and steady natural exercise. If these people will only hold themselves properly, so as to bring the abdominal pressure forward rather than backward, it is surprising how much effort may be permitted. It is a problem any woman can solve for herself if she will only try the experiment of securing downward pelvic pressure in any effort she chooses to make.

The pessary treatment is rejected in many cases because, first, the uterus is not reduced before the pessary is applied; second, such tenderness as exists is not allayed prior to the introduction of the instrument. Do this, and then use the pessary. If she feels worse with all these precautions, then operation is open to her.

In all other forms of retro-displacement I do not think it wise to evade operation.

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W. L. Estes, M. D.:

Following is the history of a case of *intra-abdominal extra-uterine pregnancy delivered at term of a living child*. Mrs. A., aet. thirty, the mother of five boys. Former pregnancies and deliveries uneventful. She menstruated last the early part of April. She remembered nothing of any especial importance occurring during what she thought was an ordinary pregnancy, except perhaps the movements of the child seemed a little different from those of her former pregnancies. She passed the normal period for her labor in January, but as she felt well, she was not particularly disturbed by the fact.

On the morning of February 3, while reaching up to a shelf in a closet to take something down, she suddenly felt something give way inside of her and immediately she was seized by severe pains and weakness. Thinking her labor had begun she summoned her family physician. After four days, as the delivery seemed not to have progressed any, and the case seemed puzzling, this physician summoned a consultant. Examination now showed a decidedly puzzling condition of affairs and the patient suffered intense and persistent pain, and had begun to vomit almost incessantly, and was very weak. On the fifth day she was sent to the hospital. My assistant, during my absence out of town, took charge of her and at once diagnosed her case, and set about preparing her for operation. She was very weak, but had very little fever. Temperature, 99.4°; pulse 112.

Upon my return home in the evening I saw her at once and made a careful examination. I found a nearly exhausted woman, pulse, 120; temperature, 98.8°. She had been able to retain

a little food during the day for the first time in three days, and she said she had less pain than for several days. She was pale and haggard, however, and very tired. Examination showed a well-developed woman, her abdomen was distended, her breasts were large, and she had the usual external signs of late pregnancy. The abdomen was flatter than usual and there was marked bulging of both lumbar regions. Palpation showed a child located transversely across the abdomen, head to the right; it moved, but its movements were feeble; it seemed as large as the ordinary child at term. Percussion showed dullness up to the line of the ant. sup. spines of the ilia, but above this there was decided resonance as far up as the umbilicus, and above this tympany. Auscultation showed fetal heart sounds very distinctly, and a souffle towards the right iliac spine. Vaginal examination showed an enlarged, but empty uterus, os widely open; careful examination showed no indications of uterine rupture; there was and had been no hemorrhage from the vagina. Uterus measured from the os externum to fundus, within, 8 cm.

The examination and history left no doubt as to the physiologic or pathologic condition. Evidently it was a case of abdominal pregnancy gone to term, and a still living child. It was presumed that rupture of the sac had occurred.

Operation was performed immediately after the usual aseptic preparations. Ether was used as the anaesthetic. I made a median incision from the hypogastric to the upper umbilical region. As soon as the thickened and discolored peritoneum was opened a quantity of dark, greenish, grumous fluid escaped, and a very dark almost gangrenous looking mass presented which was recognized as the omentum. This was adherent to the abdominal walls and to the brim of the pelvis. It was loosened, ligated, and removed. It was now apparent that the child was under the coils of the small intestines in the umbilical region, the sac was attached to the ascending and descending colon and their mesenteries, and to the under surface of the coils of the small intestines which occupied the umbilical region; it had ruptured on the left side and part of its contents had escaped into the general peritoneal cavity. Further examination showed the left broad ligament and left

horn of the uterus entirely free from the sac. About the middle of the left tube and broad ligament was a pigmented depressed annular cicatrix, which I think showed the seat of rupture of the tube at this place.

The child was quickly removed by separating the coils of the small intestine a little to the left of the median line, and enlarging by tearing, the opening already formed in the sac; the cord was clamped and cut between two hemostats. The child, a well-formed and well-developed girl, when removed was in a state of suspended animation, but was quickly revived. After the child was removed, and the cavity of the sac and the general peritoneum had been thoroughly washed out with a hot normal saline solution, a further examination showed the sac was attached below to the posterior surface of the right horn of the uterus and to the right broad ligament, to the rectum and to the fascia of the posterior portion of the brim of the pelvis, and, as I said before, to the ascending and descending colon and mesocolon on either side, and to the posterior surface of the coils of the small intestine, which occupied the umbilical region. The right broad ligament was simply attached to the sac by adhesions to its inner or uterine end. There was no indication whatever of any former injury or rupture, and the ligament itself did not form any part of the sac proper. Douglas' pouch was intact and contained nothing but some of the grumous, green fluid. The placenta was attached to the pelvic fascia over the common iliac vessels on the right side. The site of the placenta and its condition was carefully examined to find out if it were possible to remove it. While making this examination the determination was quickly settled, when a furious hemorrhage was started by an attempt to separate a sort of U-shaped bend of the cord which was attached to the bottom of the sac. Long clamped forceps and packing of gauze controlled the hemorrhage. The rest of the sac was dried and a quantity of gauze packed inside of it. The margins, where the sac was opened, were stitched to the abdominal wound and the abdomen sutured above and below, leaving an aperture of about 5 cm., which communicated with the interior of the sac and through which the gauze projected.

The woman stood the operation very well. The day following she seemed markedly better in every way. Her *scæmias* and very weak condition when admitted gave me very little ground to hope for her recovery, however. She lost ground from the fourth day and died of exhaustion on the thirteenth day after operation. The child thrived from the beginning and is now a strong, healthy girl baby.

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L. B. McBrayer, M. D.:

It has been my misfortune to feel it my duty *to terminate labor before full term* in three cases:

No. 1 was a IX-para, was comatose at six months with chronic Bright's disease, which at the time I could not differentiate from the coma of eclampsia; delivery was entirely artificial, and was completed in three hours. Patient recovered slowly from coma, and died at the end of twelve months from her chronic nephritis. The vision was entirely destroyed in this case by albumenuric retinitis and hemorrhage into the choroid. There was also blood in the urine, both by macroscopic and microscopic examination. About one month after delivery no blood could be found in the urine, but sight was never restored.

No. 2 was a IV-para, and had persistent vomiting of pregnancy; tried everything that could be thought of, heard of, or read about, in the way of medicine, and all kinds of food, from fried cabbage to liquid peptonoids, until the stomach absolutely refused to retain anything, not even crushed ice in champagne, for one moment. I then began on the other end, and gave all food and drink and a little medicine by the rectum until that organ also refused to obey my commands or entreaties, at the end of which time, which was about four and one-half months, my patient was so near the pearly gates that she could see within the portals, and she was perfectly willing to enter, and just as willing to go to the other place, or anywhere else, to get rid of that terrible nausea. Pulse, 130; temperature 101 1-2°. At this stage I terminated the pregnancy, and found a uterine mole. I introduced uterine sound into the uterus to bring on labor; pains came on in fourteen hours; nausea stopped immediately after I entered the uterus;

patient took some nourishment before uterus had emptied itself, and she had an uninterrupted recovery; has given birth to two children since, with normal labor and puerperium. The eloquent clergy may be fond of giving their supporters glimpses into the city of the New Jerusalem, but as for me, I shall never allow another patient of mine to go so near the brink with pernicious vomiting of pregnancy.

No. 3, primipara, aged twenty. Was seen at request of Dr. W. L. Dunn, of Asheville, N. C., who was treating her for tuberculosis; husband also tubercular; had had more or less treatment for nausea; five months and one weeks advanced; had had distressing nausea since beginning of second month. Stomach finally refused everything, and rectum was never very much better. For the last ten days while we were testing the efficacy of rectal alimentation, patient vomited mucous and bile every day, although nothing was swallowed unless it was saliva. Patient already thin and anæmic from her tubercular process, lost fifteen pounds more during this trying ordeal, which brought her down to ninety pounds; temperature normal, pulse one hundred. Dr. Dunn reported that the tubercular process was at a standstill, and of course she was receiving no treatment for that trouble. Brought on labor by rupturing membranes with the uterine sound, and introducing catheter into uterus and keeping it there by vaginal tampon. of course, all known precautions as to asepsis were taken. At the end of twenty-four hours patient had a chill, and temperature went up to  $102^{\circ}$ ; removed catheter and gave vaginal douche of sterile water, temperature fell to normal in twenty-four hours, and at the end of seventy-two hours from time of invasion of uterus, pains came on, and eight hours later delivery was complete. This was June 8, 1902. Patient at this time seems to be in good condition. It is my opinion that tubercular married women should be warned not to allow themselves to become pregnant, and instructed if necessary, how to prevent it. Further, should a tubercular woman become pregnant, I believe, in justice to both mother and offspring, the pregnancy should be terminated as soon as it is diagnosed.

## Book Reviews.

**THE DIAGNOSIS OF DISEASES OF WOMEN.** A treatise for students and practitioners. By PALMER FINDLEY, B. S., M. D., Instructor in Obstetrics and Gynecology, Rush Medical College, etc. Illustrated with 210 engravings in the text and 45 plates in colors and monochrome. Lea Bros. & Co., Philadelphia and New York, 1903.

In addition to the usual symptomatology and most approved methods of diagnosis in pelvic diseases in women, the author includes a compact but comprehensive study of the pathology of each condition studied. A thorough discussion of both the microscopic and macroscopic appearances is made, from which are drawn deductions as to clinical indications. It needs only a suggestion to indicate the value of such a work, and, doubtless, it will receive a well deserved popularity. The work is profusely illustrated, many drawings being entirely new and others from the most recent textbooks.

**SURGICAL ASEPSIS.** Especially adapted to operation in the home of the patient. By HENRY B. PALMER, M. D., Consulting Surgeon to the Central Maine General Hospital. Ninety illustrations. Pages, vi + 231. Size, large 12mo. Extra cloth. Price, \$1.25 net, delivered. Philadelphia : F. A. Davis Company, publishers, 1914-16 Cherry Street.

The methods described in this volume embody the principles generally accepted, modified to suit individual practice, for house to house operating.

It has been written for those surgeons who often operate outside the hospital, and for the guidance of the practitioner who may meet emergency cases. Very complete directions are given for transforming a room in a dwelling into an aseptic operating theatre as well as preliminary preparation of patient and suggestions for after treatment. Considerable space is devoted to the preparation of dressings, ligature instruments, etc., all of which will be found very useful.

## Translations.

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### THE TUBE AND UTERUS IN MENSTRUATION.

Moltzer (Monats. f. Geb. u. Gyn.), in an inaugural thesis (Utrecht, 1902) examined healthy tubes removed from two patients during the menstrual period. In one case there was an ovarian cyst. Before the parts were disturbed a drop of blood was seen issuing from each ostium, and the tubes were markedly hyperæmic. The vessels were found on microscopic examination to be dilated, the lymphatics contained many multinuclear leucocytes, which also lay in quantities under the epithelium. The epithelial cells showed vacuolation. In no part of the tube were they seen to be broken or deficient. Toward the ostium hemorrhage infarcts and hyperæmia were more marked than proliferation of leucocytes. There was no true submucous hæmatoma. As the inner half of the tubal canal was quite free from blood, the hemorrhage could not have originated from the uterus. There was no evidence of catarrh or other inflammatory changes, and as the veins in the tube were not more engorged than the arteries, the appearances actually detected could hardly be due to venous stasis caused by the ovarian tumor. In the second case the fimbriæ were stained by free blood, and the microscopic appearances of the tube substantially the same as in the first. Moltzer concludes that the tube naturally has a share in menstruation. Blood manages to escape into the lumen without breaking down the epithelium, which is just what De Sinety observed in the menstruating uterus. Most recent researches into the histology of menstruation have been made under favorable circumstances, as in winter, where decomposition is least likely to set up misleading changes; it at least seems certain that the epithelium does not break down. The hæmatomata and defects in the epithelium of a large area of endometrium are always of doubtful import, and most probably signify not menstrual changes, but damage during operation, clumsy section-cutting, or *post-mortem* changes.

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### THE APPENDAGES IN UTERINE FIBROID DISEASE.

Daniel (Rev. de Gynéc. et de Chir. Abd.) has studied this question closely. He finds that changes in the ovaries and fallopian tubes are more frequently associated with fibro-

myoma of the uterus than is usually supposed; they exist in fifty-nine per cent. When the appendages seem healthy dissection of the interstitial portion of the tube and their examination under the microscope show almost always distinct lesions. But Daniel includes under morbid changes almost the complete pathology of the ovaries and tubes, as he has seen salpingitis, oöphoritis, ovarian and broad ligament tumors, and tubo-ovarian varicocele in cases of uterine fibroid, nor does he admit of causal relations, indeed he implies that the disease of the appendages is often the result of the uterine tumor, especially when the latter has undergone degenerative changes.

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#### DAMAGE TO BLADDER AND URETER IN PELVIC OPERATIONS.

Frédéricq (Bull. de la Soc. Belge de Gynéc. et d'Obstét.) reports a case of hysterectomy for impacted fibroid on a maiden lady, aged forty, subject to severe hemorrhages. The tumor was extracted from the pelvic cavity with the aid of a screw. The bladder was seen, and its fundus pushed apparently downwards and forwards away from the site of operation. Then an incision was made across what appeared to be a fold of thickened peritoneum. As the cervix was being separated it was found that the "fold" was a diverticulum of the bladder drawn high up with the parietal peritoneum. When the tumor and cervix were completely set free from their pelvic connections after a troublesome enucleation the operator saw that the right ureter had been cut through. The wound in the bladder—about four inches long—was closed by suture, and the cut end of the ureter sewn into the right extremity of the wound. The short vesical segment of the divided ureter was left alone; indeed, it could not be found. A catheter was kept in the bladder, and the vaginal wound drained with iodoform gauze. The catheter was removed on the eighteenth day. Five months later the patient was in perfect health and comfort.

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#### CUTANEOUS PIGMENTATION AND THE GENITAL FUNCTIONS.

Dalché and Fouquet (*La Gynéc.*) have published a short memoir of considerable interest on this subject, collecting over seventeen cases. The pigmentations of pregnancy are excluded; but the authors include three original cases where catamenial pigmentation occurred in association with disease

of the internal organs. In the first melanoderma of the neck and face was observed in a sick nurse, aged forty-seven, subject to bleeding fibroid; in the second a similar discoloration of the face and neck in a girl aged twenty, subject to salpingitis, simulated a syphilitoderm; in the third amenorrhœa suddenly occurred in a parous woman with leucorrhœa; the eyelids and the lips became pigmented when the next period was due. Scleroderma set in suddenly in a girl aged fifteen, who caught cold when washing clothes during a period. When the catamenia, which were suppressed for several months, recurred, the skin affection, which involved the face, tongue, upper part of the body and the arms, not including the hands, slowly disappeared.

In the chlorosis endemic in French silk factories, a brownish coloration of the skin over the joints of the fingers is not rare. Dalché and Fouquet also report numerous cases of pigmentation related closely to menstruation or to amenorrhœa unassociated with any organic disease. Sometimes the patch is as dark as Indian ink, and not rarely the pigment comes off so as to stain linen. As a rule it is the eyelids which become stained in this manner; but the body, or even the extremities, are sometimes affected. In one case an ocher-yellow discoloration of the right and left hand alternately was observed at the periods. In others there is a rash of the erythematous type; in one instance, at least, the catamenial eruption was erysipelatous. Specially remarkable are the cases of blue pigmentation. In one young girl a distinct pale blue pigment appeared around the lids at her first period; two years later it had spread to the neck; the periods had been perfectly regular. It was stated that this subject blushed blue, but this seems doubtful, as the blue pigment could be brushed off the skin by Billard, who observed the case. Stiller reported a case of blue pigmentation in an anaemic, rheumatic, young married woman who had borne children. A few days before every period the blue patches appeared on the chin, upper lip, and lower part of the cheeks. As each period passed away, the patches became pale, assumed a yellow tint, and then vanished. Treatment depends upon many circumstances. Olive oil is good to wash away the black pigmentation of the lids. As an ointment, equal parts of castor oil and cacao butter, with a little zinc oxide and yellow oxide of mercury, and a few drops of attar of roses, make an elegant preparation, useful for friction. In catamenial pigmentation of patients subject to general diseases, ovarian dystrophy seems probable; in cases of chlorosis and swelling of the thyroid, ovarian ootherapy has proved of service in the hands of Dalché and Fouquet.

### POLYPUS IN AGED WOMEN ADHERENT TO VAGINA.

Chavannaz (Rev. Mens. de Gyn., Obstét., et Pæd. de Bordeaux) writes of a healthy woman, aged seventy-two, twice pregnant, the period became free when she was fifty-four, and "show" did not cease till three or four years later. Recently a mass began to present at the vulva. The patient was very stout, though she declared she had become much thinner during the past three or four months. A sloughy fetid polypus projected from the vagina, with free purulent discharge; the tumor formed a cylindrical mass which had elongated the vagina so that it measured nine and one-half inches anteriorly, and a little less behind. The fornices could not be reached. There was no dysuria or pain during defecation. The removal was undertaken without anæsthetics, as the tumor was fixed it could not be drawn down by aid of a volsella, and it had to be taken away piecemeal. This proceeding proved very difficult, as the polypus adhered to the vaginal walls, especially behind. A thin piece of tumor tissue was left posteriorly lest the vagina should be wounded. The pedicle of the polypus was reached and divided at the level of the os externum. But little blood was lost, but after antiseptic injections the vagina was plugged with sterilized gauze. Two days later, when the plug was removed, the vagina measured only five and one-half inches in length. Recovery was perfect, the vagina cicatrizing well at the site of the old adhesions.

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### UTERUS AND VAGINA SEPTUS; PREMATURE LABOR.

Péry (Rev. Men. de Gyn., Obstét., et Pædiat. de Bordeaux) relates an instructive premature labor in a primipara aged twenty-nine; the point of special interest was the hemorrhage, which proceeded entirely from the empty half uterus. No malformation was suspected, and the catamenia had been regular until the pregnancy. At the middle or end of the sixth month flooding set in, and a midwife removed a fragment of what she called placenta; the patient had suffered badly from vomiting, and was anasarcaous. A few days later pains occurred, and clots with a body—apparently decidua—were expelled. In the maternity to which the patient was taken the urine was found to be albuminous. The uterus, clearly gravid, seemed to lie entirely to the right of the middle line; the fetal heart sounds were clear. On vaginal exploration the head could be plainly felt presenting; what surprised

Péry was the absence of all trace of blood in the vagina. For over a week the patient was kept on a milk diet and purged, then labor pains set in with extreme tonic contraction of the uterus, and the fetal heart sounds ceased. On exploration a cervix was detected in course of dilatation, but the uterine cavity was empty, though a fetus could plainly be felt to its right. The parts were therefore thoroughly explored, then it was seen that the vagina was divided by a complete septum from the vulva to the fornices, where two uterine cervices were defined at the same level. The uterus was perfectly double, but there was no groove or depression between the right gravid half and its fellow on the left. There was still no trace of blood in the right vagina, though labor was well advanced, whilst a little blood lay in the empty left uterus and escaped from the corresponding vagina. The ovum was discharged entire shortly after this examination. The lower third of the vaginal septum was completely torn through during delivery; the placenta on expulsion showed no evidence of retro-placental hemorrhage. It was probable that pregnancy had also occurred in the left uterine cavity, but Péry could not obtain the pieces of tissue taken by the midwife for placenta and decidua, so there was no proof of abortion from the left side previous to premature delivery of the fetus in the right uterine cavity. Menstruation from the left cavity had not occurred during the pregnancy.

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#### A CALCIFIED OVARY FREE IN DOUGLAS'S POUCH.

Milander (Centralbl. f. Gynäk., No. 8) performed ovariotomy on a woman, aged twenty-one, married eight months. She had been regular; the cervix was conical with a pinhole os. The tumor was a granular cyst of the right ovary, with twisted pedicle, a trace of normal ovarian tissue was detected on the cyst wall near the attachment of the pedicle. The left broad ligament was small and thin, the tube atrophied, and no ovary could be found attached to the uterus and the back of the broad ligament. On searching the pelvis a body the size of an almond was discovered in the left side of Douglas's pouch. This free body was a calcified ovary, over one inch long, one-half inch broad, and three-tenths of an inch thick; it weighed forty-eight grains. In its stroma lay a very hard irregular calculus developed out of a corpus luteum, composed of carbonate, phosphate, and oxalate of lime. It seems to have developed owing to the nutrition of the ovary having been interfered with by the tumor on the opposite side.

**FIBROMA AND PRIMARY CANCER OF FALLOPIAN TUBE.**

Low (*La Gynécologie*) reports two cases of a new growth of the tube. A multiparous woman, aged thirty-four, had been subject for four years to amenorrhagia. For nearly a year the patient had been harassed by hypogastric pains. Inflammatory exudation was detected, but an irregular tumor could be defined in the region of left tube partly embedded in inflammatory products. After rest the exudation disappeared, but the tumor caused as much pain as before; it was therefore removed, and the pain at once disappeared. The growth was a submucous fibroma; a remarkable condition was detected—a second fibromatous growth, forming a complete ring under the mucous membrane. The second patient was a two-para, aged fifty; the menopause had occurred at forty-four. For six months she had noticed sanguous discharge and pelvic pain. The left tube formed a tumor of the size of a sausage, firm and rather tender; the uterus was movable, and felt large for the patient's age, and somewhat tender. Cancer of the body was suspected, and vaginal hysterectomy performed. Then the uterus was found healthy and seemed atrophic. The left tube was dilated, the uterine end of the canal and the ostium were enlarged, the fimbriæ covered with red papillary masses, whilst on section similar masses were detected all over the mucous membrane. They were firm and very vascular. On microscopic examination the growth appeared to be a carcinoma; within six months secondary masses could be felt in the pelvis and in the lower part of the abdomen, reaching to the umbilicus.

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**CANCER OF BREAST; METASTATIC DEPOSITS IN BOTH OVARIES.**

Nadig (*Rev. de Gynéc. et de Chir. Abd.*) has published a thesis on this subject (Zurich, 1903); it includes a case of considerable importance. A woman died within a few weeks after the removal of a cancerous breast. A careful necropsy was made in the Pathological Laboratory of the University of Zurich. A few secondary nodules were found in the liver; the left ovary was distinctly enlarged, very uneven, and hard, the right was also above the average normal size. On microscopic examination secondary deposits were detected in the ovaries. They were held to be secondary because they had

clearly defined borders separating them from the surrounding normal ovarian tissue; they were also multiple. The case was unusual, as, after cancer of the breast, metastases almost confined to the ovaries are rare.

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#### TUBAL SAC OPENED AFTER SIX LATER PREGNANCIES.

Stankiewicz (*Monats. f. Geb. u. Gyn.*) operated upon a patient with pelvic tumor which had set up dysuria. There was a history of tubal pregnancy following by six labors at term, the last requiring the aid of the forceps. The fetus, almost mature, was so thoroughly macerated that it was very hard to clean and put together the bones of its skeleton. A fistulous communication between the tube and the abdominal wound remained, blood escaped from it during the period. It did not close until eighteen months after the operation.

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#### PHTHISIS COMPLICATED BY PREGNANCY.

Seifert (*Die Heilkunde*) describes a case of phthisis complicated with pregnancy, in order to demonstrate that, though the outlook under such circumstances is not good, yet recovery may take place even in severe cases. The patient when first seen (in June, 1899) was thirty-one years old, and the mother of three healthy children. For a year she had suffered from cough, night sweats, loss of strength and appetite, and fever, and for six months from hoarseness. On examination there was dullness over the left apex, with weak bronchial breathing, and fine and medium crepitations. The laryngoscope showed granulations on the posterior laryngeal wall, edema of the mucous membrane covering the arytenoid cartilages, some thickening of the epiglottis, and slight redness and thickening of both vocal cords. Under general and local treatment the general condition and that of the larynx improved, and the voice became almost normal. In the spring of 1900 the patient had a relapse, but she again improved under treatment, and in October, 1900, her general condition was good, and the morbid changes in the larynx inconsiderable. In February, 1901, the patient, who was now in the fourth month of pregnancy, came again, complaining of cough, much expectoration, loss of appetite, pain on swallowing, difficulty in breathing, and loss of voice. There was a wide area of dullness over the left apex, with bronchial breathing and crepitations as before. The laryngeal

changes were more extensive and severe, and there was ulceration of both vocal cords. General and vigorous local treatment were adopted. The upper end of the larynx was painted with an antipyrin-cocaine solution, menthol injected, and cureting carried out. Striking improvement in almost all of the symptoms followed, though the loss of voice continued and the lung condition was little altered. In July, 1901, the patient gave birth to a child; the confinement was normal and convalescence rapid; the child did well. At the end of August the patient recovered her voice. In October she looked well, her voice was normal, and she had no difficulty of breathing or swallowing. The crepitations over the left apex had disappeared. Laryngeal examination showed that some thickening of the epiglottis and the mucous membrane of the arytenoid cartilages and the aryteno-epiglottidean folds still remained, but there were no granulations on the larynx, and the vocal cords were free from ulceration. The patient was last seen in July, 1902, when examination gave the same results as before, and the patient felt perfectly well.

#### TETANY AFTER A PERINEAL OPERATION.

Goth (Zentralbl. f. Gynäk.) performed a plastic operation on a patient, aged 25, four months after her fourth confinement. At the third labor rupture of the perineum had occurred and had healed badly. A bifurcate cicatrix ran up the posterior vaginal wall, so that a triangular piece of healthy tissue lay between the two branches of the scar. This tissue was dissected up, then all the scar tissue excised, and the triangular flap brought down and fixed to the healthy tissues laterally with silver sutures; finally, deep sutures were applied to the perineum and the skin united carefully. The patient had weaned her child when this operation was performed. There was much vomiting after the patient was put to bed, and on the second day the characteristic carpopedal contractions of tetany appeared. The attacks occurred about every twenty-five minutes, lasting from two to three minutes. They seemed to give intense pain. Troussseau's, Erb's, and Chvostek's phenomena were observed. Bromides were given in moderate doses. By the third day the attacks had become milder and less frequent; by the eighth they hardly came on twice in twenty-four hours. On the eleventh the deep perineal sutures were removed; the parts had healed by first intention. Shortly after the dressing several severe attacks came on, specially marked in the toes. The last was noted on the thirteenth day. After convalescence the patient wrote to say that they had never recurred.

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## THE MANAGEMENT OF THE PLACENTA IN EXTRA- UTERINE ABDOMINAL PREGNANCY AT FULL TERM, WITH REPORT OF A CASE. CELIOTOMY AND RECOVERY OF THE MOTHER.

BY L. L. DANFORTH, M. D.

Extra-uterine pregnancy is so frequently observed by surgeons at the present time that the narration of an ordinary case is hardly justifiable. But the case to which I shall call your attention is one of the rare anomalies of obstetrical experience. It is a case of extra-uterine pregnancy, primarily tubal, which went to full term, though the history records an attack of sudden pain, unconsciousness and weakness on or about the fourteenth week which would indicate primary rupture. Probably it was a case of tubal pregnancy with primary rupture into the broad ligament, ultimately advancing to full term, with preservation of the life of the foetus, a still more rare anomaly. The history will reveal the facts and they are eminently worthy your consideration.

The patient was Mrs. S.; nationality United States, æt. 41; mother of seven living children, one miscarriage. Admitted to

the maternity ward of the Flower Hospital, December 21, 1902, at 10.30 a. m.

Previous labors normal; previous childbeds normal. Last menstruation April 4, 1902, duration one day, amount scanty. Quickening latter part of June. Excessive nausea all through pregnancy. Latter part of July had a "fainting-spell," fell unconscious to the floor; was placed in bed and after a time recovered, but does not know the details of the attack further than as described. Patient rallied and has gone on to full term with more or less increasing pain and greatly increasing distension.

*Examination on admission*—Inspection and palpation, nothing unusual.

*Position*—Transverse.

*Presentation*—Transverse; head to the right.

*Auscultation*—Uterine souffle present.

*Vaginal examination*—Vagina, oedematous; cervix, not obtained; os externum, not obtained.

*Mensuration*—Distance between spines 21cm; between crests 24cm.; R. O. 21cm.; L. O. 21cm. Conjugate diameter, 18cm.; conjugate diagonales, 11cm.; conjugate vera, 10cm.

Date of expected confinement about January 9, 1903.

The patient was brought to the hospital by her physician, Dr. J. Oscoe Chase of New York city, who, by the way, had already concluded that the case was one of extra-uterine pregnancy, and this diagnosis was confirmed by Dr. William Tod Helmuth. She was admitted to the maternity ward December 21, as labor was thought to be imminent on account of the pain. During the few days immediately following admission, the patient was examined by Professors Helmuth, Bishop, Hamlin and the writer, and members of the house staff. The physical condition was unique. Per vaginam the cervix could not be felt. The entire upper pelvic space was a solid mass, encroaching well into the pelvic cavity posteriorly. The examining finger could be passed up behind the pubic bone, into a cul-de-sac where it was supposed the cervix existed, but it could not be detected by any of the examiners. Just above the pubes, and resting upon the gestation sac, was a flat ovoid body, five or six inches in length and perhaps five broad at its widest part, immovable but possessing decided contractile properties. The

patient suffered from dysuria, and the urine was laden with pus. The bladder was drawn up to the right, and the catheter passed two-thirds its length before the bladder was reached. The flattened ovoid body referred to was hardened and its shape changes when irritated by the hand. Fœtal heart sounds were not heard. Position of child was transverse, with head in the right flank. The abdominal wall was extremely thin. Upon making a quick tapping impulse against the head, it would re-



Half-tone from Photograph of Dr. Danforth's Case.

cede from beneath the fingers against which it immediately rebounded. It was so superficial in its situation that it appeared impossible that there was little more than the skin of the abdominal wall interposed between the fingers and the child. The question of diagnosis was the first point to be determined. That pregnancy existed there could be no doubt, but whether the child was in the cavity of the uterus, or outside of it, was the question at issue. The words of the late Professor Thorburn of Manchester, England, written after an extensive experience of extra-uterine gestation and of diagnosis in doubt-

ful cases, came forcibly to my mind. He said: "Granted an absolutely certain pregnancy, with very strong suspicion of its being extra-uterine, the probabilities are nevertheless very greatly in favor of its turning out to be intra-uterine."

Excessive thinness of the abdominal wall is a condition which is met with in extra-uterine abdominal pregnancies, and is very strongly suggestive of this state, but it is very liable to mislead if relied upon implicitly, since both the abdominal and uterine walls may be extremely thin and the child be within the cavity of the uterus. Furthermore, the well-known fact that the great majority of cases of extra-uterine (tubal) pregnancies terminate in primary rupture with death of the foetus before the fourteenth week, and that full-term abdominal pregnancies are among the rarest anomalies of obstetrical experience, caused the writer to hesitate and weigh well all the evidence before pronouncing the case to be one of this variety. The possibility of a thin-walled retro-displaced sacculated pregnant uterus was thought of, and the presence of the cervix high up above the pubes was considered as possibly corroborative of this condition. And yet this seemed improbable in the light of the history and the physical signs, while the flat ovoid contractile body on the front of the gestation sac could only be accounted for on the supposition that it was the undeveloped, though enlarged, uterus lying in front of and upon the gestation sac.

The symptoms strongly in favor of extra-uterine abdominal pregnancy were the following:

Undoubted pregnancy as indicated by cessation of menstruation, breast signs and quickening. Symptoms of primary rupture about fourteenth week.

The presence of a body which could not be interpreted as anything but the undeveloped uterus from its shape and contractility, resting on anterior wall of gestation sac.

The extreme thinness of abdominal wall, through which the child could be felt and easily moved (external ballottement).

The absence of the cervix or any opening into the uterus.

The symptoms indicating the necessity for immediate operation were the bad condition of the patient; she was suffering pain, becoming septic, temperature ranging from 90° to 101°, and inability to retain anything upon the stomach. The child

was dead and there was absolutely no possibility of its being delivered by the natural route in any case, whether intra or extra-uterine. In this opinion Drs. Helmuth and Bishop agreed, and there was general unanimity of opinion that the case was one of extra-uterine full term abdominal pregnancy—the child having expired at about the time the woman was admitted to the hospital.

The patient was prepared in the usual manner, and the operation was performed on December 29, 1902, by the writer, assisted by Dr. Joseph H. Fobes, House Physician, Dr. Doremus, House Surgeon, and the house staff, many physicians and students being present.

*Details of Operation.*—Abdomen opened by a long incision, one sweep of the knife being sufficient to expose the fetal sac, which bulged into the opening freely on account of the thin abdominal wall and the great distension of the cavity. Enormous sinuses were visible coursing in the anterior wall of the sac. Extending across the sac was the left ovary and tube closely adherent and directly in the line of the incision. The right round ligament was adherent to anterior sac wall on the right side. Gauze packs were placed outside the sac all around to protect the peritoneal cavity. The left tube and ovary were ligated and removed. Severe hemorrhage occurred, and all attempts to check the flow were without effect, as the blood came from the large placental sinuses. An incision was at once made into the sac large enough to admit two fingers, the feet were seized and a full term male child was delivered, weighing  $7\frac{1}{2}$  pounds. It had evidently been dead several days. The cavity of the gestation sac was packed with gauze and pressure exerted upon the placental edges to check the bleeding. After a few moments the pack was removed, the cavity washed out with normal salt solution and another pack inserted and allowed to remain. The gauze outside the sac was removed and the edges, including the placental tissue, were stitched to the abdominal wall with silk ligatures. This controlled the bleeding entirely and at the same time shut off the peritoneal cavity from the external wound. The removal of the gestation sac entire, including the placenta, was considered desirable, but it was found to be inexpedient to do this owing to the fact that the en-

tire right broad ligament was involved, and the cavity of the gestation sac extended to the bottom of the pelvis. Furthermore, the placenta extended over nearly the whole of the interior of the sac, and it was impossible to remove it. The umbilical cord was of average length and was attached to the left side of the gestation sac.

The post-operative history, condensed from the bedside notes, is as follows:

During the two days following the operation the temperature did not exceed 100.6°. The packing was removed in thirty-six hours and the sac irrigated with peroxide of hydrogen (50 per cent.) and Hg. Cl., 1-5000. The third day the wound was irrigated three times with peroxide of hydrogen (50 per cent.) and electrozone 1-6. The temperature ranged from 99.4° to 102.4°. Placental tissue removed at each dressing, at first only in small pieces—but later it came away in large pieces; odor very offensive. In all subsequent dressings formalin 1 1-1000, at first twice and then once a day until placenta was all removed, and the odor had ceased. In two weeks' time under this treatment the wound was clean, and granulating nicely. After each cleansing the sac was packed with plain gauze soaked in electrozone 1-6, or saline, or what gave the best results of all—formalin 1-2000. The patient sat up twenty-nine days after the operation and was discharged on March 18th practically well, having gained very much in general health and appearance. This excellent result was largely due to the devoted care given to the patient day and night during all those weeks by the house physician, Dr. Joseph H. Fobes.

The special topic for discussion to which I would invite your attention is this, viz.:

*The management of the placenta in advanced extra-uterine abdominal pregnancy.* This subject affords a problem which rises superior to all established rules of surgical procedure. Each case must of necessity be a law unto itself—no two cases can possibly be alike in all respects, although the same general procedures will apply in cases which are similar. That this must be so is evident from the variety of pathological processes witnessed by different observers as knowledge on this subject has accumulated. As an example of the different varieties of

placental development which may take place—the history of a tubal abortion will afford a good example. If the foetus escapes from the end of the tube (three-fourths of the cases of tubal pregnancy terminate in this way) and the placenta is retained within the tube intact, further development is possible and gestation may go to full term as a so-called abdominal pregnancy. In such cases after the escape of the foetus, the tube may, and often does, close down on the placenta and form a sac in which the latter remains during the rest of pregnancy. The removal of the placenta in such cases is a simple procedure, accomplished by tying off the ovarian and uterine arteries, and by continued or interrupted suturing of the broad ligament. In other instances, though the placenta remains attached to the tube wall it increases in size, and its peripheral portion extends beyond the tube so that the organ eventually becomes implanted partly upon the tube and partly upon the uterus, pelvic floor, bladder, rectum or intestines. Primary ligation of the blood supply would here also greatly lessen the danger of hemorrhage, and facilitate the removal of at least the sac and perhaps a part of the placenta. When the placenta is spread out, with its blood supply coming from broad surfaces that render ligation impossible, as when it is attached to organs, or when it lies upon the iliac peritoneum, the operator is compelled, if the placenta is disturbed at all, to check hemorrhage by aortic compression and direct pressure of gauze wrung out of hot water. If the placental attachment is widely diffused and the hemorrhage seems impossible to control, by ligature or compression, it is far better to recognize the fact early before it is disturbed and made to bleed. It may then be left *in situ* and the wound closed. If necessary the wound may be reopened whenever the symptoms indicate the necessity for so doing, the placenta then being removed at once or in fragments during the succeeding days and weeks, the sinus being kept clean by constant attention and free use of H<sub>2</sub>O, and formalin solutions 1-2000. The entire placenta will come away in time even under these adverse circumstances. The placenta has been left in the abdomen, the wound closed, and the patient has recovered: in other instances death has ensued.

Tubal pregnancies which rupture into the broad ligament

are the most favorable. They usually terminate by death of the ovum and formation of a broad-ligament haematoma. But further development of the foetus may continue between the folds of the broad ligament. The termination depends very much upon the extent to which the placenta has been separated from its tubal attachment. If not so great as to destroy the life of the foetus the placenta may develop upward, lying above the foetus (as in the case reported), or it may grow down between the folds of the broad ligament, having an attachment in that case partly to the tube and partly to the pelvic connective tissue. These are the cases of *extra-peritoneal* or *broad-ligament* pregnancy. In this variety the sac and placenta is entirely beneath the peritoneum, and the latter may be pushed up, even stripped up, for a considerable distance from the anterior abdominal wall. In cases of this variety, which continue to develop, a secondary rupture occurs and the foetus is extruded into the peritoneal cavity. Under these circumstances development may go on to full term. An operation here would call for first the removal of the foetus, tying cord close to placenta, then ligating off the main arterial supply and removal of sac and placenta entire, or by partial exsection of the gestation sac, leaving enough to cover over the raw surface, and then plaiting it down to shut off communication with the general peritoneal cavity. If necessary a vaginal drain may be employed; this would afford a gratifying safeguard against hemorrhage and sepsis (Martin's method). In some instances the removal of the entire uterus has been deemed necessary, so involved has this organ been in the general mass. In cases of extra-uterine gestation which are not far advanced, and where it may be fairly assumed from the shape and situation of the mass that it is extra-peritoneal, it is a good plan to start the primary incision near the pubes and enlarge it when the nature of the condition is ascertained. By so doing one may avoid opening into the peritoneal cavity, and then if it becomes necessary to leave the placenta *in situ*, the conditions are more favorable for drainage than when the peritoneal cavity has been opened.

In the case which is reported here to-day, the gestation would seem to have been one of those rare instances of tubal gestation which went to full term, or perhaps one of the still rarer

variety in which broad ligament rupture first occurred, the placenta retaining its vitality, the foetus developing, and as it grew upward pushing the placenta before it—going on to full term without a secondary rupture—the walls of the tube and the broad ligament constituting the gestation sac (extra-peritoneal pregnancy). When the abdomen was opened enormous sinuses were seen coursing through the wall of the sac and the slightest interference with the sac wall gave rise to profuse bleeding, the blood “welling” up as if it were pumped up by a powerful force from within. The placenta was spread out all over the upper surface of the sac; there was no point where one could penetrate it without going through placental tissue. The uterus, left tube and ovary and right round ligament were pushed up in front of the gestation sac and tightly adherent to it. There was nothing to do but go right through the sac, deliver the child and trust to compression to stop the hemorrhage. It is probable that the death of the child a week or ten days previous to the operation may have been favorable in that the placental sinuses may have been partly occluded by thrombus formations. In such cases as these undoubtedly the best plan is to stitch the wall of the sac, including the cut edge of the placenta to the abdominal wall. This checks the hemorrhage mainly and shuts off the peritoneal cavity from the cavity of the gestation sac.

From an examination of a “Table of Extra-Uterine Abdominal Pregnancies from 1880-1898 (sixth to sixteenth months) compiled by Dr. Edward A. Ayers of New York city:” (148 cases), I find six cases in which the sac was stitched to the abdominal wall, the placenta coming away in pieces during the following weeks. All the mothers recovered.

In one the sac was  $1\frac{1}{2}$  cm. thick. Mother recovered; does not state method of placental management.

In seven cases the uterine and ovarian arteries were ligated. All the mothers recovered.

In one the entire sac was removed.

In seven the placenta came away in pieces for five days to several weeks. All the mothers recovered.

\* “Obstetrics.” Vol. I., 1899, p. 70.

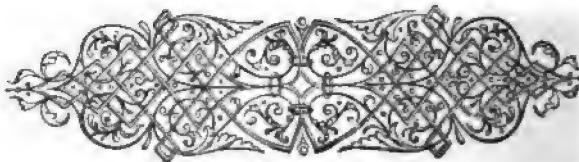
In one the placenta never came away and the mother recovered.

In three the placenta was cut through in first incision, and one mother recovered and two died.

In one the placenta was removed and a vaginal drain applied.

Of the 148 cases 44 mothers died at varying intervals after operation, and 104 recovered.

To this paper of Dr. Ayers the writer is much indebted for suggestions concerning the management of these rare and difficult cases.



## CONVULSIONS DURING AND AFTER LABOR.

BY EDWARD BEECHER HOOKER, M. D.

There is no complication of labor more to be dreaded than true puerperal convulsions, for the lives of both mother and child are threatened and both will be lost unless relief be afforded.

In some cases there are premonitory symptoms which give warning to the most negligent. These are headache, disturbance of vision and epigastric pain. There are others also, but not of the same importance, such as, nausea, vomiting, restlessness, weariness and mental irritability. But the most dangerous form, whose onset is sudden, and which rapidly causes coma and death, may come unheralded by any of these warning signs. Grave is the responsibility of the accoucheur when in the midst of an apparently normal labor, or after its completion, his patient suddenly becomes unconscious, her eyes fixed in a vacant stare, and in a moment her frame shaken by convulsive movements, to be followed soon by irregular heart action, cyanosis of the face and stertorous breathing. Heavier yet is his responsibility if he has neglected to systematically analyze her urine and thus keep track of the excretion of waste products, whose retention in the system causes the frightful phenomena he is witnessing. For it is to detect in advance the otherwise unheralded coming of puerperal convulsions that we make analyses of the urine of the pregnant woman. And it is not enough to note the specific gravity test for albumin and look for casts. The quantity of urine passed in twenty-four hours and the amount of urea, or at the very least the amount of the total solids excreted, should be known. It is not easy to prepare the hydrobromate of soda solution to test for urea, and it is difficult to keep it fresh, nevertheless it is safer to be sure of the urea. It is, however, very easy to estimate the total solids in twenty-four hours. And if the amount of urine excreted is normal, contains no albumin, if its specific gravity is high enough and the total solids are not diminished, you may feel reasonably safe.

I have been surprised to note how few physicians who come before our examining board for license to practice have an accurate knowledge of the simple method of ascertaining the total solids by the use of the co-efficient of Haser, and at the risk of imparting elementary knowledge I will repeat it. Multiply the last two figures of the specific gravity of the urine by  $2\frac{1}{3}$ . This gives the number of grammes of solids in 1000 cubic centimeters of urine. Multiply the product already obtained by the amount of urine passed in twenty-four hours and divide the total by 1000 and you have the total grammes of solids. One gramme is equal to about  $15\frac{1}{2}$  grains, and the total solids are easily estimated in grains. An ounce of urine is equal to 30 cc., and it is easy to reduce the quantity in twenty-four hours to cubic centimeters. To illustrate, a woman of average weight is passing forty ounces, or 1200 cc. of urine, in twenty-four hours, with specific gravity of 1021. The simple problem is

$$\text{then } \frac{2\frac{1}{3} \times 21 \times 1200}{1000} = 57.6 \text{ grammes} = 892.8 \text{ grains.}$$

The normal amount of solids for a person weighing 145 pounds is about 60 grammes or 930 grains, so this woman, for her size, is getting rid of her waste products very well and is in no danger.

The amount of urea excreted by a healthy adult should be about 33 grammes or 512 grains, that is, a little more than half of the solids, so that the urea could not be seriously diminished without very perceptibly diminishing the total solids. Therefore, as I said, if we find the urine normal in amount, of good specific gravity, without albumin, and no decrease in the total solids, we may consider that the kidneys are doing their duty and that there is no danger of puerperal convulsions so long as this condition prevails.

Puerperal eclampsia is caused by a toxæmia, "a poisoning of the blood by certain unknown toxins which are retained in the system by reason of deficient action of the excretory organs, notably the kidneys, the alimentary tract and the skin; these toxins, floating in the blood, augment the heightened instability of the nervous system, raise the bodily tension, and by irritating the motor centers of the brain produce convulsions, coma and frequently death."

Convulsions may be prevented, when danger of their coming is detected in advance, by putting the woman on a milk diet, keeping the bowels in good order and stimulating the skin by warm baths. Should convulsions occur in spite of foreknowledge and preventive measures, or should they appear unexpectedly, an early delivery should be brought about under chloroform, the rapidity of the procedure depending upon the urgency of the situation. In sthenic cases, with high arterial tension, the tincture of veratrum veride is the most valuable remedy we possess, and it should be given in doses of five to fifteen drops until the pulse is reduced to 70. In the asthenic cases, with weak heart, fluttering pulse, cold skin and arrest of urinary excretion the subcutaneous injection of the normal salt solution and high enemas of the same are the most effective means, sustaining the failing heart and restoring the action of the kidneys. A solution of chloride of sodium and acetate of sodium, one dram of each to the pint of hot sterilized water, is even a better preparation than the plain salt solution. Thyroid extract has been advocated within the past two years as a remedy for the prevention of eclampsia and its treatment when present. During the past year Stroganoff has reported a remarkable series of cases without a death. He regards eclampsia as "an acute infectious disease which runs a self-limited course of a few hours' duration, seldom exceeding twenty-four hours in length and still more rarely forty-eight hours. His treatment is designed to accomplish the following results: (1) The prevention of convulsions by lessening the irritability of the nervous system and by removing all external sources of irritation, especially those connected with the birth canal. (2) The strengthening of the vital processes by careful supervision of the cardiac and pulmonary circulation and by securing as large a quantity of oxygen as possible." If with these measures and a proper diet the convulsions do not cease, he administers oxygen during the convulsions, morphine and chloral to control the seizures, cardiac stimulants if the heart is weak, avoids all depressing measures and delivers as promptly as possible.

I have alluded to genuine puerperal convulsions thus briefly in order to emphasize a few points concerning them, and also to distinguish them from convulsions which I have encountered

during and after labor, which do not seem to me to be true puerperal convulsions, which are not caused by defective excretion of waste products, but are more purely epileptic or neurotic in their origin. There is beyond a question a peculiar susceptibility of the cortical motor cells to irritation during pregnancy and therefore a weaker stimulus will evoke convulsions than during the non-pregnant condition, and I maintain that convulsions may occur differing from true eclampsia and yielding to different treatment. It is important to discriminate between these two classes of seizures, the one is a toxæmia, the other a neurosis. The recital of a couple of cases of the latter kind will illustrate my meaning.

The first case of this kind that I met occurred in 1893. A rather delicate neurotic woman of twenty-five years became pregnant in the previous December, about ten weeks after her marriage. She was confined September 11th. The last analysis of urine before confinement showed normal quantity in twenty-four hours, S. G. 1026 and no albumin. Labor was normal, and she came through it in good condition. At 4.30 the following morning she was suddenly seized with convulsions, which lasted several minutes, with entire loss of consciousness. During the day she had occasional spasmoidic twitchings of various muscles, but no return of the convulsions. The urine excreted amounted to about two quarts, 1018, no albumin, no casts, excessive amount of phosphates. I learned that when a girl she had been troubled with epileptiform attacks, without loss of consciousness (*petit mal*) during the menstrual epochs.

Taking into consideration the brevity of this attack, the unclouded mental condition after it, the normal action of the kidneys, and the previous history, I made up my mind that this was an epileptic seizure and not puerperal eclampsia. The subsequent history confirmed this diagnosis, for she had several attacks afterwards, and when menstruation was resumed she had a seizure at each epoch for two or three months.

This experience taught me that convulsions in the puerperal state are not necessarily puerperal convulsions.

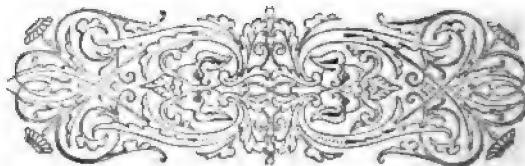
A second case illustrates the same proposition, though less clearly, for there was some kidney insufficiency at the same time. This patient, a primipara, like the other, was passing

urine in normal quantities, free from albumin but of specific gravity a little lower than normal, 1013 at the last examination before confinement. Labor came on about ten days late and the breech presented. I explained the situation to her at the proper time, and let her know that I should probably have to use forceps to deliver the head. I prepared the instruments for the emergency in another room and assured her of a successful termination of labor. But she was very nervous, and suddenly, while the breech was dilating the perineum, she became unconscious, rigid, and then convulsed. I immediately had chloroform administered, delivered the breech and body with my hands as rapidly as possible, and putting the forceps on the head, speedily completed delivery without injury to mother or child. The patient quickly became conscious and never had another sign of convulsions. Urine drawn by catheter was S. G. 1021, and contained small quantity of albumin, which, however, disappeared in a few days.

I admit that this is not a clear case of epileptic or non-eclampsic convulsions, yet from their short duration, the rapid and entire recovery and the absence of other symptoms usually accompanying eclampsia, I am inclined to believe that the neurotic element predominated rather than the toxic, and that if the woman had had the common vertex presentation, and labor had gone on without unusual incident, no convulsions would have occurred. Four years afterward I delivered her again; she had normal labor, vertex presentation, and no convulsions. But her urine, while free from albumin, stayed at 1012 and 1014 during the last few months of her pregnancy.

The importance of discriminating between the toxic and neurotic forms of convulsions is evident. When the system is overwhelmed by a poison our true homeopathic remedies are of little avail, for the system is not in a condition to react to them. If we confine our efforts solely to prescribing the most similar remedy—valuable as it certainly is in the right class of cases—we shall fail and lose valuable time besides. Our efforts must be directed to diluting the poison, sustaining the patient, controlling the convulsions by chloroform or other drug, restoring all the excreting functions to their fullest possible capacity and promptly delivering the patient. In the neurotic form the po-

tentized remedy is within its true sphere and we may justly expect much from it. Delivery need not be so swiftly accomplished, although we can hardly expect the convulsions to wholly cease until labor is over, and we should use every measure which will lessen the irritability of an over-excited nervous system. To bring this about we shall have to call upon old friends whose faces are familiar to you, and I need not therefore draw their pictures; they are, acon., bell., cicuta, coffeea, cuprum, gels., hyos., ignat., nux v., opium, puls. strum., apis, canth. terebinth and others. Do not use them all at once, but select the one your patient calls for and give it with confidence.



## IMPROVED TECHNIQUE FOR THE PRIMARY REPAIR OF LACERATIONS OF THE PELVIC FLOOR.

BY FLORENCE N. WARD, M. D.

The statement of the distinguished President of the Edinburgh Obstetrical Society at the last meeting, that the maternal mortality in private practice is nearly double that of half a century ago, is so startling that we cannot help but pause and investigate the conditions rendering such results possible.

Wherein lies the flaw in private work, whereby the results are in such striking contrast with hospital work which now show almost ideally perfect records.

Though the standards are the same for both classes of patients yet the technique for private work is so ineffective that a greater or less degree of infection is the rule, rather than the exception. There is no doubt that the principal avenues of infection lie in the abrasions and wounds at the entrance to the parturient canal, particularly in the lesions of the perineum and pelvic floor. And it is by calling attention to these lesions, how important a part they play in favoring septic invasion and perfecting our technique in their treatment that we shall be able to eliminate a very large portion of the pathological lesions occurring during and after the lying-in period.

Thomas' statement written twenty years ago is as true to-day as it was when it was written, namely, "The importance of the perineum in this connection, cannot be exaggerated. Its rupture furnishes one of the most fruitful sources for absorption of septic elements and I do not hesitate to say that thousands of women suffer throughout their lives from uterine displacements, engorgements, and vesical and rectal prolapse in consequence of injuries inflicted upon it during the parturient act."

Such teaching has had its influence upon the profession with the result of greater care in the management of these injuries. The results however are far from perfect as every gynecologist can attest when he reviews the numberless cases of ill-health that can be directly traceable to the lesions, the cystocele, the rectocele, the prolapse—and to quote from Hirst, "If the

physician multiplies his experience by that of thousands of his colleagues in America, if he reflects that everyone of these conditions represents the fault of a physician, that everyone of them could have been prevented or cured without delay he must be appalled by the thought that the medical profession itself is responsible for five-sixth of the diseases of women as we see them to-day."

Two prerequisites are essential for the successful repair of the perineum, First, a knowledge of the anatomy and function of the pelvic floor and second, a good working aseptic technique, elastic enough to meet the varying needs of different cases, and yet perfect enough to allow of no possibility of infection.

A few words as to the essential points concerning the formation of the outlet of the pelvis; so much has been written upon the perineum and the pelvic floor and yet there remains many vague and erroneous ideas as to its purpose and formation.

The old idea of the central perineal body forming the main support of the pelvic contents has been abandoned by most authorities and proper attention is now given to the muscular layer and its fascia which forms the true support to the outlet of the pelvis.

Practically the only muscles are the levator ani composed of the pubo-coccygeus and the pubo-rectalis with its wide origin from the lower border of the symphyses, the body of the pubes, the descending ramus of the pubes and the obturator fascia. These fibers sweep downwards, encircle the vagina and rectum, and send interlacing fibers to its fellow of the opposite side in the median line at the perineal flexure and are gathered together and inserted into the coccyx and lowr part of the sacrum.

This muscle with its fascia forms the great muscular diaphragm of the inferior strait. It produces the characteristic perineal flexure of the rectum and vagina. It closes the pelvis and in its integrity holds the sacral segment well up under the pubic segment. It undergoes extreme elongation during the dilatation of the pubic outlet for the passage of the child and is extremely liable to rupture or laceration. It is

extremely important to understand the relation of this muscle to the lateral walls of the vagina in our treatment of its lacerations.

On passing the finger into the vagina, the so-called point of augulation can be discerned about 2 cm. within the hymen and tracing from this point the edge of the muscle can be distinctly felt laterally in its course toward the symphises pubes.

What are the changes resulting from its laceration?

I. Lengthening of the muscle with a loss of its contracting power.

II. The vagina loses its perineal flexure or angularity.

III. The posterior vaginal walls recede from the pubic arch and the ostium vagina is enlarged and lax.

IV. The perineal furrow has lost much of its depth.

V. The anus lies instead of anterior, posterior to the line drawn from tuber ischii.

The lacerations resulting from its extreme dilatation are of various degrees and kinds, for practical working purposes there is no need for the elaborate classification attempted in many of the works upon obstetrics. They may be divided into,

I. Those involving the tissues between the lower end of rectum and vaginal opening, external to the muscular layer.

II. Those involving laceration of the sphincter ani.

III. Those involving muscles of the pelvic floor.

IV. Combination of any or all three of these lacerations.

The object of the repair it not only to close the rent, to bring together raw surfaces and prevent septic absorption but to bring together the divided ends of the muscles so as to restore their elevating or sphincteric action at the vaginal opening.

## II. SURGICAL TECHNIQUE.

The underlying principle to be observed is that from the time laceration of the pelvic floor occurs *the case then becomes a surgical one and must be treated upon the most approved surgical principles both at the time and until repair is fully accomplished.*

How is this to be accomplished? The difficulties are so many, the marvel is that the failures are not more frequent

than they are. Let us glance for a moment at the conditions prevailing when the laceration occurs. The physician is alone, usually without skilled assistants except what aid the nurse may render. The patient is usually primipara, exhausted by severe labor, with more or less free flow of blood pouring over the wound, the surrounding parts are more or less contaminated and finally there is a wound in the most difficult part of the body to keep clean, a wound in close proximity to the three outlets of the body and their discharges. The wound itself presents ecchymosed and oedematous tissue with ragged edges irregularly zigzagging into the deeper structures.

The first step is after examining and discovering the lesion to acknowledge its existence and take immediate steps for its repair. Place a sterile gauze pad over the wound until preparations are complete for the work. It is no opprobrium that such an accident has occurred. In this era when the foetal head is disproportionately large and the pelvis small with its weak musculature, it is rare for the primipara to escape without some rupture. The day of the old practitioner, "who has had over a thousand cases with never a laceration" is passed.

I would advise that the patient be lifted out of bed and placed upon a table, if possible upon a Kelly pad. It is impossible to do the work properly with the patient upon a soft yielding mattress and the operator kneeling or stooping over her. It is much better to have the patient gently lifted upon the table in a good light and where the operator can sit down in front of her. Have her legs flexed upon the abdomen and held in place by a leg supporter. If possible send for another physician to give the anæsthetic, as it is almost impossible for the obstetrician to superintend the anæsthesia, to see that the uterus is properly contracted and make a good repair at the same time. Next give the patient a thorough external cleansing after the anæsthetic has been given. Place fresh gauze pads about the field of operation or what I like better, a large square of silkite or rubber dam, freshly boiled and with a central incision large enough for the immediate field of the operation.

The nurse should sterilize her hands and take her place upon the right of the patient, facing the physician, her left hand should be kept constantly over the fundus of the uterus to main-

tain good contraction, leaving the right hand to assist in holding sutures or sponges or whatever the physician may direct.

Each physician should go to a case of confinement with the necessary preparations for repair. The fewer the instruments the better; they should be freshly boiled and should consist of, 1 pair of scissors, one-half dozen pairs artery forceps, 1 Peaslee's perineal needle or, if preferred, 1 needle holder, and one-half dozen medium and large curved Martin needles, 1 pair of tissue forceps.

The best ligatures for the immediate repair are silkworm gut, which is an ideal suture for this kind of work and chromatized catgut for buried sutures for uniting divided muscles or for cutaneous stitching. The size of catgut that may be needed are Nos. 1, 2, 3. Each size coming in separate hermetically sealed glass tubes to be broken at the time of operation. Silkworm is best carried similarly prepared. In case the physician cannot obtain prepared silkworm gut in the market, he can readily prepare it himself at his office for each confinement case. It is best not to depend upon the sterilization of the ligatures at the time of the operation. Take a glass tube 10 inches long and pass a dozen silkworm gut sutures into it. Place the tube in a test tube, fill the tube with alcohol, cork it and boil it for fifteen minutes. At the time of the operation, the glass tube containing the silkworm can be dropped from the test tube upon sterile gauze and each strand withdrawn as needed.

If rubber gloves have been worn through the confinement, they should be removed and reboiled before beginning the repair. The field of operation should be irrigated by constant flow of normal solution of salt or salt and soda solution in the proportion of 7 1-2 per cent. of salt to 2 1-2 per cent. soda or the wound may be sponged with dry sterile sponges.

Before introducing the sutures, a careful examination should be made to determine the nature of the rupture. If the muscles are involved, if the laceration has extended into either sulcus of the vagina, the retracted ends of the levator ani should be seized by tissue forceps and sutured by buried catgut. This is the most important step in restoring the integrity of the separated muscles and time and skillful attention should be

given to its nice coaptation; after which the deep vaginal silk-worm gut sutures should be taken, care being taken to have a wide sweep deep in the lateral muscular tissue to gather in any retracted fibers, after which the skin perineal sutures should be taken. The ends of each suture should be clamped with artery forceps placed one after another on the pubes. They should be tied from above downward, care being exercised that all oozing be stopped and that no dead spaces be left. Before approximating the edges of the wound and tying, care should be taken that all frayed or ragged edges should be clipped away. In case the laceration has involved the sphincter ani, the rectal mucous membrane should be united with catgut, after which the retracted ends of the anal muscle should be united by sutures of silkworm gut passed deeply into the divided ends and brought closely together and the operation continued the same as for incomplete tears.

Some cutaneous catgut sutures may be needed to accurately coapt the cutaneous margins, especial care being exercised for complete closure near the anal margin, that portion of the wound most apt to be contaminated. A basin of bichloride solution should stand conveniently near in case of accidental contamination of the hands that they may be plunged into the solution. In case the finger is passed into the rectum to facilitate the introduction of the deep sutures, the rubber glove of that hand must be freshly sterilized or if rubber gloves have not been worn, the finger must be protected by a freshly sterilized rubber cot, to be removed before taking up the next stage of the operation. After drying the wound, plenty of sterile gauze is placed at the vulva and the patient put back to bed.

The after treatment consists in spraying the vulva after each urination and defecation, with salt or sterile solution and the application of sterile dressings. The nurse should be instructed to scrub her hands and pass them through bichloride solution each time before touching the vulva.

Under these precautions, union by primary union should be secured with resulting normal function of the pelvic floor, without scar tissue to limit the action of the levator ani or retracted fibers to limit its contractile power.

## SOME NECESSARY PROCEDURES FOLLOWING PRYOR'S OPERATION FOR UTERINE SEPTIC INFECTION.

BY M. O. TERRY, M. D.

I am fully aware that the surgeon of to-day, with an extensive clinic or surgical practice, does not care to take the time to use auxiliary methods which would, in my opinion, bring about favorable results when otherwise the operative procedure itself might be a failure in given cases. This is especially true in regard to some of Pryor's operations.

It is not long since that I heard a prominent and busy surgeon state that he was not favorably impressed with this surgeon's procedures as he, himself, did not secure the results he should obtain. This induced me to bring before you some observations which I have carried out practically for a number of years following these operations.

Pryor uses some local measures which are good so far as they go.

It is not my intention to enter into a detailed statement as to the various conditions brought about in the uterus as a result of various kinds of septic infection. I am a great believer in brevity and do not think it good policy to elaborate in regard to pathology, so well written up in most of our surgical books, in a brief paper of this character. In fact what we want, if I am not mistaken, is a new thought or a practical hint which cannot be found in text-books.

The outing which we medical gentlemen have during a session of this sort is not unlike a school during the period of its session. It should be, however, of the post-graduate kind, for most of us have good libraries and take a variety of journals and we come here for the purpose of obtaining new thoughts and practical ideas to help us on our return when we again assume our imperative duties. If I shall have made sufficient impression upon the surgeons present in reference to using auxiliary methods, most of them have assistants who will be quite able to carry out and persevere with the suggestions I am about to present.

We have brought to us acute, subacute and chronic conditions of a septic character which will require different methods of treatment. An acute infection, before hyperplasia takes place, requires systematic and persevering douching, with drainage and possibly curettage. The douche upon which I mostly rely is that of bromine and soda. The preparation of bromine which I use is as follows:

B.	Bromine,	:	:	:	:	:	:	Drams 2
	Iodide of potash,	:	:	:	:	:	:	" "
	Aqua dest.,	:	:	:	:	:	:	Pint 1.

Mark preparation 1:64.

Of the above preparation use two drams to a quart of water, to which add one dram of bicarbonate of soda.

Drainage is necessary and curettage in some instances, as I have remarked, and the treatment must often be continued for weeks. If the case does not improve in a satisfactory manner it means, of course, that Douglas's cul-de-sac must be opened and the usual procedure recommended carried out in addition to the above. Occasionally cases will not recover under these measures and it is here where the surgeon has lost his confidence in the preliminary steps taken for the cure of his patient. Either the disease has resisted his treatment or the hyperplasia has advanced under the septic infection producing an agglutination of the various tissues connected with the uterus. After the discharge has ceased, and Douglas's cul-de-sac has healed, with pain in the ovarian region still remaining, it is quite evident that there exists a pathology which may remain permanent in the thickening of the tissues and the binding down of the same, squeezing the nerves and causing the various neuralgic symptoms, so harassing in difficulties of this sort.

It is here where the medicate galvanic current does excellent work in producing absorption of the morbid processes existing. With the negative pole in the vagina or uterus and the positive pad over the abdomen, which is charged during the treatment to the sacrum, a cure in many cases will be produced. The solution used for the pad is composed of muriate of ammonia and iodine. Half an ounce of the former and twenty drops of the latter will be of ample strength for the treatment under consideration.

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Someone may be able to explain why variable results are obtained by the current and these agents. I simply know that I have secured them and, as in the case of cervical tubercular or scrofulous enlargement of the neck, goiter and chronic involution of the uterus, satisfactory results have followed.

It is presumed that the products of the dissolving effects of this medicated current are cast off through the various emunctaries of the body and if such result be obtained that the hyperplasia disappears in this manner. The neuralgic pain ceases and we again have the woman in the full possession of her anatomy, as against the removal of all that pertains to her sexual life—a state of affairs much to be approved of over the other.

There is no surgeon present more favorable to radical measures than myself when the pathology of infection has brought around such destruction that recovery is beyond the limit of possibility. The suggestions which have been made are therefore: that the heroic surgeon may do the best that it is possible to accomplish with his knife and, yet, I claim, there still remains in many cases pains and aches and morbid processes, which will follow the patient for all time, unless the treatment suggested be carried out.

On the other hand, before the heroic measures have been instituted, the douching, the curettage, the opening of the cul-de-sac, and, later, abdominal section could be carried out if success has not crowned the surgeon's efforts in the first instance.

It may seem strange, but it is true, that in the use of douches the tissues or mucous membrane become accustomed to a given amount of medicaments, and it is always wise to change them if improvement be not satisfactory. We have, then to think of: iodine, carbolic acid, bichloride of mercury, nitrate of silver and other agents which can be resorted to if it be found necessary.

In conclusion let me say that if I have in any way encouraged the surgeon in his conservative methods to secure satisfactory results, rather than in the first instance the radical measures of ablation, I shall have accomplished the result desired.

## RECENT OBSTETRIC LITERATURE.

BY J. F. BATTIN, M. D.

In this paper I wish to give a brief outline only of the recent literature on obstetrics. The consideration accorded this subject by the people and the popular press has been second only to that given orthopedic surgery as demonstrated by Professor Lorenz.

Our strenuous President has placed himself on record on the question of race preservation and has aroused much discussion among the people and physicians as well. He was not the pioneer in this movement, however, as some authorities had before him published carefully prepared statistics on the productiveness of the various peoples of this country.

True it is that with the prevention of conception by the various means known to the laity, and the untimely termination of pregnancy through weakness, or the use of emmenagogues, or by mechanical interference we find the ratio of productiveness rapidly declining among the more able and cultured of our people; so much so in many places as to give just cause for alarm.

In the literature of Obstetrics much is being written along the lines of preventive medicine, attention being given to minute detail in dealing with such subjects as dystoria and complications resulting from pelvic or abdominal adhesions, as for instance, from an old case of appendicitis.

The easement of labor, also much considered, is without doubt a commendable line of endeavor. The habits, customs and in many cases the treatment received by women during the last hundred years have made labor more difficult and hazardous for the succeeding generations until comparatively recent times; now our physicians and reformers are looking more to the natural in everything as first manifest in nature, and we find that the nearer the type of woman approaches that of the best models, which I believe are those of the ancient Greeks, the more natural is her labor and the better endowed are her offspring.

Extra-uterine pregnancy and the recognition of it by the gen-

eral practitioner has probably taken the lead in the more able papers. "Ectopic Pregnancy and Other Subjects," by Wm. Cash Reed, published in the Homeopathic Journal of Obstetrics for September, 1902, and "The Clinical Features of Early Ectopic Pregnancy," by Edwin A. Neatby of London, published in the same journal, in a series beginning with January, 1903, are well worthy the reading by all general practitioners. It is necessary to the welfare of the patient that these conditions should be early recognized by her physician in order to avoid a catastrophe that might befall any parturient woman.

In equal seriousness of results are the cases of old pelvic or abdominal abscess sacs and adhesions as shown by Dr. B. Frank Betts in his article entitled "Appendicitis Complicating Pregnancy and Parturition," as read before the Homeopathic Medical Society of Pennsylvania and published in the Journal of Obstetrics for January, 1903.

"The Easement of Labor by Use of Heat and Hot Water Retained Injections," by William A. Galloway, and the "Control of Women in Labor," by Sheldon Leavitt, are most excellent articles endeavoring to teach us that we may the better be able to give appreciative aid to the suffering of parturition.

Obstetricians have for a number of years kept pace with surgeons along the lines of asepsis, but because they do not have as complete control of their patients, puerperal septicæmia sometimes steals in.

Two such cases almost simultaneously entered two New York Hospitals in what was thought to be hopeless conditions. They both recovered and at this juncture the popular press took up the subject, proclaiming the experiment that brought about the recovery of these patients the greatest discovery in modern times; whether it is or not must be determined by further tests. Dr. Francis Honan, in the January number of his Journal, tells how he treated his case in an article entitled "Formalin in a Case of Sepsis."

"General Anæsthesia in Obstetrics with Pure Ethyl Chloride," by Lepage and Lorier, is interesting in that it is recent and according to the authors, the drug action is rapid and the recovery almost instantaneous and without nausea.

"Homeopathy in Obstetrics," by C. E. Fisher of Chicago,

and published in the Medical Century for December, 1902, is an article dealing with the remedial treatment from the Homeopathic standpoint during parturition and labor.

Some favorable comment has been given on the use of Strychnia Nitrate to renew and strengthen labor pains, but I have never used the drug for this purpose.

The history of a subject to most of us is interesting. The present status can be judged only by comparison with the past. "Pregnancy and Child-birth among the Ancient Scandinavians," is a bit of interesting history given us by Dr. Frank H. Pritchard in the Hahnemannian Monthly. Of equal interest is Dr. Bertrand K. Wilbur's article on "Obstetrics Among Some Primitive Women," published in the same Journal.

Among the books on obstetrics none have appeared from the pen of a homeopathic physician within the year. Leavitt's is I believe our latest work on this subject. The older school are favored with four excellent works in their way, all being new editions of some former work. Two of these I have examined, "The American Text-Book of Obstetrics," in two volumes, and "Hirst's Obstetrics" in one large volume. They are models of the printer's art, being better illustrated than anything preceding; the strictly surgical and mechanical elements in obstetrics are very well explained and taught; all is given that a homeopath would wish except the therapeutics.

Why can we not have another work on this interesting and vital subject from the pen of a homeopathic physician and published by a house that will let nothing inferior enter into the makeup of the work? I for one would welcome it.



## OBSERVATIONS ON EMPYEMATA IN CHILDREN.

BY P. STANLEY BLAKER, M. D

I think it is on the whole admitted that this disease during childhood is a less serious complaint than during adult life, but this statement does not hold good for all ages of childhood. It will not be denied, for instance, that the disease is a very

serious complaint during infant life—that is, when it attacks a child under 2 years of age; under a year old, as the figures below will show, the recoveries are few and far between. Hence a record of a personal experience of the above number of cases may be deemed of value, and more especially the points relating to treatment.

I range myself with those who believe that an empyema is an empyema from the beginning—that it starts as such, and very seldom as a simple effusion, which later on becomes purulent. Only in one case did a secondary puncture (after an interval of a fortnight) of the chest reveal pus when the first exploration withdrew a syringeful of clear pleural fluid. In this case, moreover, I am rather inclined to the belief that pyogenic organisms were introduced into the chest at the first operation. In every other case pus was found from the beginning.

If I were to arrange my 81 cases in some order of classification, I should, from a clinical standpoint, be disposed to divide them up into two main groups—those that I would associate with the name of "acute" or "primary," and the "late" or "secondary," which latter would include about 80 or 85 per cent. of all cases. To explain this classification, I would begin by saying that nearly all empyemata seen at a children's hospital are associated with an attack of pneumonia, either of the croupous or of the catarrhal form. An empyema due to initial disease of the pleura alone must be a very rare condition indeed, and then it would probably be associated with a similar condition of the other serous membranes or with some form of pyæmia. In the 81 cases to which reference is made, it was not found possible to attribute any one of them to an absolute primary morbid condition of the pleura. Further, many cases that were examined post mortem showed some trace of associated pneumonia. Of course, it is difficult to imagine how the lung tissue could escape implication when the contiguous pleura was diseased and vice versa, and hence it would be practically impossible to say which was the seat of the primary mischief. Now, the affection of the pleura is manifested either concomitantly with the attack of pneumonia or else subsequently to it, this period varying from ten days to three or

four weeks, and even much longer; and hence those in the former group would be classed as acute or primary, and those in the latter as chronic or secondary.

In the acute cases the signs of fluid in the chest develop simultaneously with those of pneumonia, and the patient is very ill indeed from the first onset of the disease. The illness starts quite suddenly with vomiting and marked dyspncea, the respirations are hurried and grunting, the alæ nasi work vigorously, there is a good deal of recession of the lower part of the chest, the face is dusky and the lips markedly cyanotic; the temperature is found to be raised to  $104^{\circ}$  or  $105^{\circ}$ . On making a physical examination of the chest, there is marked dullness with increased resistance on one or both sides, and loud tubular breathing over a very extensive area. A puncture with an exploring needle withdraws a thin watery purulent fluid, very often blood-stained. Such cases practically always die when the patients are under 2 years old. They may live for a few days or as long as a fortnight after the onset, but they eventually die, not from the empyema, but mostly from extensive consolidation of the lungs, if they escape such complications as pericarditis, meningitis, and peritonitis.

As a rule the fluid withdrawn from the chest in these cases is teeming with the pneumococcus, and there may be at times an admixture of the streptococcus or the staphylococcus. At a necropsy the lungs are found to be very extensively consolidated with broncho-pneumonia, in the third stage, if the patient has lived long enough; the surface of the pleura is seen to be injected, sometimes looking quite red and inflamed (in the early stages), and covered over with large flakes of yellow lymph. So intense is the inflammation and infiltration of the pleura in such cases that I think if any are to be classed as primary pleural affections these acute cases should. There were altogether 9 such cases in the series of 81.

In the second group, that is in the chronic or secondary empyemata, are included all those cases where the signs of fluid developed after the attack of pneumonia, and it may be pointed out that in some of the cases the signs of pus were observed to follow immediately upon the attack of pneumonia, whilst in others some weeks had elapsed before they were evident, in

other words the pus formed very gradually in these latter cases. In the first class the patient gets an attack of pneumonia with all the characteristic signs and symptoms, but he fails to have a crisis as far as the temperature is concerned, though the general symptoms may have improved; signs of fluid become evident, and when the chest is explored pus is found. In the later cases very often there is a history of pneumonia four or five weeks ago, or even longer; there is also a definite history of the child having had a crisis, in that the child seemed very well, and "seemed to be getting on," but two or three weeks later "he seemed to fall back again," and wasted. When the child is seen and the chest examined, the physical signs of fluid are obvious, and the exploring needle withdraws a syringeful of pus.

It may seem rather complicating to differentiate between the early and late secondary cases, but my object in doing so is to emphasize this important difference, that in the early cases the consolidated lung has not undergone complete resolution, but there is still probably a good portion of lung tissue quite solid, whereas in the late cases, from the fact that a much longer interval has elapsed, the patient has an empyema pure and simple without any lung consolidation. The secondary cases as a whole do very well when operated upon, but I think the late cases do best of all, provided the patient is treated within a reasonable time, because such cases, as a rule, are quite free from complications.

#### SUMMARY OF THE EIGHTY-ONE CASES OF EMPYEMA.

The 81 cases were made up by 43 males and 38 females; in 30 the empyema was right-sided and in 42 left-sided; 9 cases turned out to be double. Not a single case of apical empyema occurred, and in 2 cases only were there two cavities on the same side necessitating double operation to let out the pus. That empyemata are more common on the left side cannot be wondered at, since the croupous pneumonia of the lower lobe is more often met with on the left than on the right side; and the only reason by which one can account for the rarity of an apical empyema is that the pus gravitates to the base, for apical pneumonia of the croupous type is quite a common occurrence in young children. In 58 patients the onset of the illness

was quite sudden, like that of pneumonia, and in 10 it began very gradually without being able to fix a definite date as to when the complaint commenced. A recent attack of measles from which the illness dated was noted in 5 cases, and I had a history of injury to the side the day before he was taken suddenly ill with symptoms pointing to pneumonia. In the remaining cases no reliable history could be got.

#### BACTERIOLOGICAL EXAMINATION.

Examination of the pus was made in 69 cases, with the following result:

Diplococcus in 61 cases.

Diplococcus and streptococcus in 3 cases.

Diplococcus and staphylococcus in 1 case.

Streptococcus alone in 3 cases.

Staphylococcus alone in 1 case.

In all but 4 cases, then, out of 69 was the diplococcus found. In most cases this organism was encapsulated, and of the lanceolate shape.

Tubercle is a very rare cause of empyema in children. At the necropsy made on 23 of the patients that died, tubercle was found in 3, and they showed signs of general disease. The question that may be asked with regard to these cases is, Does the illness begin as tubercle, or is tubercle grafted upon the original complaint of empyema? Two of these showed evidence of chronically enlarged tuberculous bronchial glands, which in all probability served as the focus from which general dissemination took place when the patients were taken ill. In the other case there were a few old tubercles in the spleen.

#### PROGNOSIS.

This depends very much indeed upon the age of the patient, the younger the patient the less are the chances of recovery. It will be seen from the series that 11 of the patients were under a year old, and out of this number only 1 recovered, a baby 10 months old. Between 1 and 2 years of age there were no less than 28 cases, the largest number in the series, and of these 11 died, and 17 (nearly 64 per cent.) recovered. And so with re-

gard to the other periods of life, the same fact is evident that the older children have a better chance of recovery. Of the 9 acute cases included in the series 4 died and 5 recovered; the ages of those that died was 2 and under 2 years, and the youngest of those that recovered was 5 years. It would seem, therefore, that the acute affection is particularly fatal in infants. The older children recovered from the acute attack; but, nevertheless, their illness was very severe, and caused considerable anxiety.

From the cases it is also evident that the bacteriology must be taken into account in forming a prognosis. I have already mentioned that 4 cases had a mixed infection of pneumococcus and streptococcus or staphylococcus. All these died. Three cases showed the streptococcus only; one of these recovered after being in hospital 131 days; and lastly, one case was due to the staphylococcus alone, and that also proved fatal. Only 2 of the acute cases in the series had a mixed infection—the remaining 7 were due to the pneumococcus only.

#### THE CAUSE OF DEATH.

Of the 31 deaths that took place a necropsy was made in 23 cases, pericarditis occurred in 7 patients: 2 were in cases of right-sided empyema, 2 left, and 3 in double. Suppurative pericarditis is not always diagnosed during life, and as it occurred at least seven times in 31 patients that died it should always be very carefully examined for in cases of empyemata. A pericardial friction is not always heard, and its absence is by no means indicative of the absence of pericarditis. One very striking feature that impressed me most in these cases of pericarditis was the intense pallor which was always present, and a diagnosis of this complication has mainly to be made from this symptom, along with increase of the area of cardiac dullness and a diminution of the heart sounds. Purulent meningitis accounted for 4 deaths. In one of these cases it was astonishing to find at the necropsy the whole of the brain covered over with a thick layer of yellow pus, and during life the patient did not exhibit a single indication of any kind of brain trouble. On the other hand, another patient had a great many symptoms of meningitis, without any naked-eye evidence of

the disease at the necropsy—a cultivation made from the base of the brain, however, showed encapsulated diplococci. Purulent peritonitis was noted in 3 cases; these were attended with signs and symptoms of peritoneal trouble. Suppurative mediastinitis was also present in 2 cases. A bacteriological examination of the pus was made in each of the above cases, and in every instance a diplococcus resembling the pneumococcus was found to be present.

But what I feared most, especially in infants under 2 years of age, was the occurrence of broncho-pneumonia. Eight of the cases that were subjected to a necropsy and 4 that were not had evidence of very extensive broncho-pneumonia. Of course, some of the cases were of the acute type where the pneumonia was present from the commencement of the illness; on the other hand, the pneumonia developed in other cases subsequently to the operation, and in all the cases death was due to this cause and not to the empyema. Once the infants showed any signs of pneumonic consolidation, they went from bad to worse and died. Some of these cases were of the late secondary type, where there was nothing but an empyema pure and simple to treat; in some instances a portion of a rib was resected, while in others a simple incision was made. The patients did very well for a few days, the cavities drained well, and when everything seemed to be most satisfactory these patients suddenly developed signs and symptoms of pneumonia, and after a week to a fortnight died. At the necropsy, extensive broncho-pneumonia in the third stage, probably involving a whole lobe of one lung and a part of the other, was seen. The pleural cavity was in each instance quite empty, having been well drained. But for this subsequent development of pneumonia, I am quite sure that the percentages of recovery from empyema in infants would be much higher. It is difficult to know what could be done to avoid its occurrence.

#### TREATMENT.

All the cases were treated by opening the pleural cavity and draining it. Aspiration was tried in 4 cases in the very young—that is, in babies under a year old—but although the opera-

tion was repeated three or four times, the pus reaccumulated, and the chest had to be eventually opened and the pleural cavity drained. Although, however, the aspirator cannot be depended upon to cure an empyema, yet its (aspirator's) use has certain advantages in that complaint. For instance, as a preliminary to evacuation of the pus by drainage in those cases where the signs and symptoms are indicative of a very large quantity of pus in the chest. In such cases it is a wise plan to remove a part of the fluid a day or two before the operation. By this means a certain amount of risk from shock may be avoided. Especially would I urge this proceeding in the case of babies, who are particularly liable to collapse soon after the chest has been opened. Again, aspiration finds its use in cases of double empyema. In such cases the chest should be opened on one side first, whilst the other side is treated by means of aspiration, the pus being withdrawn either once or twice before the second pleural cavity is opened. Double empyema is a very serious condition even in the older children; the percentage of recoveries in infants under 2 years of age is very small indeed; therefore the proceeding to be adopted in the operative treatment should be one that will produce the minimum amount of shock. At any rate, I am quite certain that to open both sides of the chest on the same day, or even within two or three days, is a mistake, and that the chances of recovery will be better if a longer interval is allowed to elapse between the two operations. The interval must be determined upon the merits of each case. Of the nine double empyemata included in the series, only one recovered, and that was the case of a baby,  $1\frac{1}{2}$  years old, where one empyema developed some days after the other, and the interval between the two operations was, in consequence, considerable. Apart from one other use, to which reference will be made later, I have no further recommendations to make in favor of the aspirator, and I should never attempt to treat a case of empyema by this means alone, hoping to cure it.

The treatment by drainage was adopted in all the cases, either by previously removing a portion of rib, or else by merely making an incision into the pleural cavity through one of the intercostal spaces.

With regard to the presence of pus in any situation, the right principle to follow is to remove it as soon as its existence has been made evident. To this sound principle I am inclined to make one exception in connection with empyemata. In the acute or primary cases it is a mistake to open the chest at once because some thin purulent fluid is withdrawn with an exploring needle. It would be wise to wait until the acute stage of the illness has passed off before the operation is undertaken. If this is done the patient will stand a greater chance of recovering. Of course, if the quantity of the fluid is excessive (more often it is small), then it would be better to aspirate rather than open the chest. This line of treatment is particularly applicable to infants under two years of age suffering from acute empyema, and in them no undue haste should be made to let out the pus. These patients do not die from the effects of the empyema but from the concomitant pneumonia, and an open pleural cavity would seem rather to bring about an attack of pneumonia than help in its resolution—witness the cases that develop a pneumonia after a secondary or late empyema has been evacuated.

Out of the 81 cases under consideration 52 had rib resection done and 26 had merely a simple incision made; the remaining three cases were not operated upon since they were admitted into hospital in a moribund condition, and died within a very short time after admission. There is nothing to say upon the question of rib resection—the ordinary operation was done in each case, removing about an inch of rib.

*Incision.*—With reference to the method of treatment by simple incision, in all but one case the patients were two and under two years of age. The one case alluded to was that of a girl  $7\frac{1}{2}$  years old who was admitted into hospital in a very critical condition with one side of the chest entirely filled with pus. The chest was immediately aspirated and then incised, but she died the next day quite suddenly from pericarditis. Of the 26 patients thus treated 12 recovered.

That 14 should have died cannot be wondered at; not one of them was free from complications, and the complications were of a serious nature, and in themselves sufficient to cause death. Four out of the 14 patients had a double empyema, and

one of these was associated with purulent pericarditis, and 2 of them were under a year old.

Of the cases that recovered the youngest was only ten months old, and another case was that of a double empyema. All the cases were, however, of the secondary or late variety, and were quite free from complications, and had consequently the best chances of recovery. In babies under eighteen months old I feel sure that a simple incision into the pleural cavity is the best mode of treatment, and in every case treated in this manner the drainage provided has been very efficient. This fact was repeatedly proved in the post-mortem room beyond any question of doubt. In 9 cases (treated by simple incision) that were examined after death, the pleural cavity was found to be quite empty, and in such cases that lived for many days after the operation and died from some complication, the pleural cavity was found to be practically obliterated, indeed in 2 cases it had become quite obliterated. If an exploring needle (of large size) withdrew pus quite easily from the chest of a baby under eighteen months old, the practice was to invariably make a simple incision, deeming that this procedure would provide quite efficient drainage. Latterly the incision was made as far forwards as possible—about the mid-axillary line or even a little further forwards. Here there is undoubtedly more space, and it is surprising how large sized a tube can be got between the ribs. In most cases two tubes were inserted side by side, in this way providing freer drainage, and it was found to act most satisfactorily. It has been said that the ribs bounding the space are liable to become eroded and to give rise to trouble. This happily did not occur in any of the above cases.

A second point in favor of incision over rib resection is that the operation is a simple one, takes very little time, and can well be done without a general anæsthetic. In many of the cases operated upon the parts were simply first frozen with ethyl chloride. And lastly, the shock from the operation of simple incision is very slight as compared with the larger operation of rib resection. This is a most important point which must be taken into consideration with babies, who are not able to sustain as severe a shock as the older children.

## AFTER-TREATMENT.

I next turn to the question of the after-treatment of cases of empyema, whether treated by rib resection or by incision. To think that, once the operation has been done, there the treatment practically ends, is a very grave error. It cannot be too strongly emphasized that very great care and attention is most essential during the whole period from the time that the operation is done to complete recovery and the ultimate success is dependent in a far greater measure upon the after-treatment than upon the immediate line of treatment adopted. A great many of the ill-effects of an empyema can be avoided if the after-treatment of a case is carefully attended to.

For one thing, the duration of the illness in a great many cases can be reduced to as little as three weeks, or even a fortnight from the day of the operation. In many of the cases included in the series the wound had healed in three weeks, and in some cases before that period. The one great mistake that is repeatedly made is that the services of the drainage tube are not dispensed with early enough. The longer the tube is retained the longer will the wound go on discharging, and the more tedious will the healing process be. In a very large number of cases the lung soon expands, and the pleural cavity soon becomes obliterated, and the discharge for which the tube has been kept in comes not from the pleural cavity but from a sinus which has been produced and kept open by a tube which was not necessary.

The first point then to remember, is to get rid of the tube as soon as possible. In the earlier cases the tube was kept in for a very much longer period than in the later cases, and latterly it was frequently dispensed with altogether within the first week after the operation. It is quite certain that this can be done in a great many cases, but every now and then a case will be met with where the utmost difficulty will be experienced in dispensing with the tube; still, if the case is very carefully watched, then there is no harm done by leaving the tube out, even though it may have to be reinserted. In one or two of the cases the tube had to be reintroduced several times before it was ultimately dispensed with altogether. How often one meets with cases of old empyema with a discharging sinus for months and even years

after the operation. And when such a condition of things obtains it is only too well known what very great difficulty is experienced in trying to get the sinus to heal; repeated scrapings of the sinus or even fresh resection of a rib or ribs is done in the hope that the wound may heal. Necrosis of the rib would probably not occur so often if the prolonged source of irritation was early removed.

The following was the plan adopted with regard to the after-treatment of a case. The tube was not removed from the wound for two days after the operation, though it was invariably shortened by  $\frac{1}{2}$  inch or more on the next day. This was done by withdrawing the tube and cutting off the protruding end. After this the tube was daily removed, cleaned, boiled and shortened before being reinserted. Whenever the discharge became thin and watery it was very often found to be a good indication for leaving out the tube altogether, and was always considered a good sign. After removal of the tube, as a rule, a thin gauze drain was put into the wound for a couple of days, and each morning when the dressings were done a sinus forceps was introduced to let out any retained discharges. This had to be done only two or three times in most cases. In such cases where a double tube was inserted, one of them was removed on the first or second day, and then the remaining one treated in the usual manner. It was found to be a good plan to apply boracic acid fomentations to the wound when the tube had been omitted; it prevented any scabbing over, and so permitted egress to any discharges. On the whole, aseptic dressings were found to be preferable to antiseptic, since they were not irritating to the skin. Previous to applying the dressings the wound was dusted with iodoform and a very liberal sprinkling of boracic acid powder all over the side of the chest. Another little detail which was invariably carried out each day, and which was found to be very useful, was to clean the surrounding skin thoroughly with methylated ether. By observing all these little details connected with the dressing there was seldom if any trouble with the skin.

Washing out of the pleural cavity was done in several of the cases in the series, not on account of any foul discharges from the wound, but as a means of clearing away any thick pus or

flakes of lymph. During this operation (irrigation) patients frequently coughed out through the wounds large pieces of lymph, and there can be no doubt that the duration of their illness was materially shortened. The solution used was one of iodine (one dram of the tincture to the pint), and great care was also taken to let it run in slowly. The coughing that very often accompanied the irrigation was beneficial in that it helped to expel any pus or lymph. With great care and attention, there is very little danger of any harm coming from washing out an empyema cavity.

With regard to the general treatment, there is nothing much to say. The patients were put on a very liberal diet, and when the weather was fine they were well wrapped up, and their cots wheeled out into the open.



### THE TREATMENT OF DIPHTHERIA BY THE ANTITOXIC SERUM.\*

BY H. A. CLIFTON HARRIS, M. D.

What experience I have of this treatment has been gained in the wards of the London Hospital. The matter of this paper has been gleaned from various sources, among them: Dr. Norrthrop's article on Diphtheria in Nothnagel's "Encyclopaedia of Practical Medicine"; Dr. Goodall's article on Diphtheria in the "Encyclopædia Medici"; a report on the bacteriological diagnosis and the antitoxic serum treatment of cases of diphtheria admitted to the hospitals of the Metropolitan Asylums Board, by Professor Sims Woodhead; a report of the Medical Superintendents upon the use of antitoxic serum in the treatment of Diphtheria in the hospitals of the Metropolitan Asylums Board during the year 1895; the Annual Report of the Metropolitan Asylums Board for 1901; and Dr. Goodall in the Medical Annual for 1903. I must also acknowledge the kindness of the members of the staff of this hospital in allowing me access to the notes of the cases from which the statistics at the end of this paper are compiled.

\* Presented to the British Homeopathic Society. Trans. of Section of Medicine and Pathology, March 5, 1903.

The method of procuring antitoxic serum is as follows: A virulent culture of diphtheria bacilli—that known as No. 8, and used also in many other laboratories in the United States and Europe—is grown in bouillon under conditions found to be best suited to the greatest production of toxin. The culture, after a week's growth, is removed, and rendered sterile by the addition of a 5 per cent. solution of carbolic acid. On the following day the sterile culture is filtered through ordinary sterile filter-paper and stored in full bottles in a cold place until needed. The horses used for inoculation should be young, vigorous, of fair size, and absolutely healthy. A number of such horses are severally injected with an amount of toxin sufficient to kill 10,000 guinea-pigs of 250 grammes weight (*i. e.*, about 40 cc. of strong toxin).

With each injection of toxin 10,000 units of antitoxin are given. After from three to five days, as soon as the fever reaction has subsided, a second subcutaneous injection of a slightly larger dose is given. At intervals of from five to ten days increasing injections of pure toxin are made, until at the end of two months from ten to twenty times the original amount is given.

The horses are now bled, and the blood-serum is tested for antitoxin. Those having an antitoxin containing less than 200 units in each cubic centimetre are discarded. The remaining horses receive steadily increasing doses, the rapidity of the increase and the interval of the time between the doses (about a week) depending somewhat on the reaction following the injection, an elevation of temperature of more than 3° F. being undesirable. At the end of three months the antitoxic serum should contain from 300 to 800 units in each cubic centimetre, according to the horses used. The best horses continue to furnish serum of a high grade for years. Each year they should be given an interval of three months freedom from inoculations.

In order to obtain the serum the blood is withdrawn from the jugular vein by means of a sharp-pointed canula, which is plunged through the vein wall, a slit having been made in the skin. The blood is received in large Erlenmeyer flasks and allowed to clot, the flasks being placed at first (while clotting is taking place) in a slanting position.

The serum is siphoned off by means of aseptic glass and rubber tubing and is stored in large flasks. From this, as needed, small phials are filled. The phials and their stoppers, as indeed all the utensils used for holding the serum, must be *absolutely sterile*, and every possible precaution must be taken to avoid contamination of the serum. An antiseptic may be added to the serum as a preservative, but is not necessary, and probably inadvisable.

Of the chemical character of antitoxin little is known. It is believed to be a proteid substance, destroyed by a temperature above 55° F., resembling the globulins in some of its chemical characters. If kept in a dark, cool place it remains practically unchanged for some months.

*The standard toxin is a toxin* of such a strength that in every cubic centimetre there is sufficient lethal substance to prove fatal in four days to one hundred guinea-pigs, each weighing 250 grammes.

One-tenth of a cubic centimetre of normal serum will counteract ten times the minimum of toxin fatal for a guinea-pig weighing 300 grammes. One cubic centimetre of this same normal serum equals one antitoxin unit.

The results of the antitoxic serum injection on a case of diphtheria are as follows: The membrane begins to disappear in twenty-four hours, the temperature falls, the pulse becomes slower, and the general condition of the patient improves in every way. The local effects produced by the serum on the pseudo-membrane are very marked. In cases of pure diphtheria in the pharynx or tonsils, a few hours after injection the pseudo-membrane becomes blanched, the dirty color usually present is less marked, the membrane appears to swell, becoming more or less granular and seemingly thicker; the mucous membrane round it takes on a congested appearance and a purplish color, and is more or less swollen. Later the membrane becomes loosened at the edges and rolled up, and soon detaches itself, either *en masse*, or in small pieces.

The period of immunity from the antitoxin injection is only about one month. This short period of immunity is to be expected, owing to the fact that antitoxin is continuously being lost by the body. On the other hand, after an attack of diphthe-

ria the period of immunity is much longer, as the formation of antitoxin goes on for a very long period of time after the initial dose of toxin.

The following statistics strikingly show the decrease in the death-rate since the introduction of antitoxin treatment:

I.—From the reports of the Metropolitan Asylums Board:	
Death-rate of all cases of diphtheria in 1892, prior to the introduction of antitoxin serum, was,	29.15 per cent.
Death-rate of all cases of diphtheria in 1895, when the serum was first introduced, was,	22.5 " "
Death-rate of all cases of diphtheria in 1901, when the serum was employed in the great majority of cases, was,	11.31 "
The difference in the mortality in 1892, without antitoxin, and in 1901, with antitoxin, was 18 per cent.	

II.—From the report of the Board of Health of New York:

Death-rate of all cases in 1892 was 40 per cent.
" " " 1895 " 19 "
" " " 1900 " 14 "

The difference in the mortality in 1892, without antitoxin, and in 1900, with antitoxin, was 26 per cent.

The mortality in laryngeal cases has been reduced in two ways: firstly, by its beneficial effect upon operation cases; and, secondly, by decreasing the number of cases in which tracheotomy is imperative.

The statistics of the Metropolitan Asylums Board show that in 1894, prior to the antitoxin treatment, there were 466 laryngeal cases, with 289 deaths. Mortality, 62 per cent. In 1895, when the antitoxin treatment was first introduced, there were 543 cases, with 230 deaths. Mortality, 43.3 per cent.

In 1901, all cases being treated with antitoxin, there were 753 cases, with 159 deaths. Mortality, 21.1 per cent.

The mortality in 1901, with antitoxin, was nearly a third of that in 1894, without antitoxin.

In 1894, without antitoxin, there were 261 cases of tracheotomy, with 184 deaths. Mortality, 70 per cent.

In 1895, when antitoxin was first introduced, there were 255 cases of tracheotomy, with 125 deaths. Mortality 49.4 per cent.

In 1901, all cases receiving antitoxin, there were 367 cases, with 11 deaths. Mortality, 30.2 per cent.

Among the tracheotomy cases the mortality in 1901, when all cases were treated with antitoxin, is seen to be consid-

erably less than half the mortality in 1894, before antitoxin was used. It will also be seen that the proportion of tracheotomies among the laryngeal cases for 1901 is rather less than in 1894, before the introduction of the serum.

*Age* has always an important bearing on the death-rate of diphtheria, whether treated by antitoxin or not; but here, again, the statistics show marked diminution in the number of deaths at all ages with the serum treatment.

From the Metropolitan Asylums Board, in 1894, before the use of antitoxin:

Mortality under 5 years of age,	.	.	.	.	47.4 per cent.
" " 10 "	:	:	:	:	37.2 "
" " 15 "	:	:	:	:	38.6 "
All ages,	:	:	:	:	29.6 "

In 1895, when the serum was first used:

Mortality under 5 years of age,	.	.	.	37.4 per cent.
" " 10 "	:	:	:	31.4 "
" " 15 "	:	:	:	29.4 "
All ages,	:	:	:	28.1 "

The most essential point in the treatment is that the injection of antitoxin should be given as early as possible. The following tables show the importance of this fact:

Metropolitan Asylums Board, 1895-1897:

	Deaths.	Mortality.
Cases treated on first day of disease 209, with,	8	3.8 per cent.
Cases treated on second day of disease 1,126, with,	137	12.1 "
Cases treated on third day of disease 1,313, with,	275	20.9 "
Cases treated on fourth day of disease 1,332, with,	376	28.2 "
Cases treated on fifth and later day of disease 2,436, with,	780	32.0 "

From the Imperial Board of Health in Berlin, 1895-1896, out of 13,137 cases:

Mortality on first day,	6.6 per cent.
" second "	8.3 "
" third "	12.9 "
" fourth "	17 "
" fifth "	23.2 "

I could quote many other tables of statistics which help to bring out the importance of this fact.

A striking table, showing a great decrease under the use of antitoxin serum in the number of cases developing laryngeal diphtheria *after admission to hospital*, is given in the Report of the Medical Officers of the Fever Hospitals under the Metropolitan Asylums Board. In 1894, before the introduction of antitoxin, there were 3,042 diphtheria admissions to the hospitals of the Board, in 116 of which the larynx became affected after admission. In 1895, *with antitoxin treatment*, there were 2965 cases admitted, *only* eighteen of which developed laryngeal diphtheria after admission.

The effect of the serum on the occurrence of paralysis has been made a great deal of by the opponents of the antitoxin treatment. From the statistics it certainly appears that paralysis occurs more frequently in those cases in which the serum has been used. This, however, is accounted for by the fact that many of the cases developing paralysis but for the serum would have died. Hence there is a larger number of paralytic cases, but a much diminished death-rate. Probably if the serum could have been administered earlier the paralysis might have been prevented. From a report of the Clinical Society in 1898 it was found that in a series of cases not treated with antitoxin the percentage of cases of paralysis was 10.8, and the mortality 12.2. In a series of cases treated with antitoxin the percentage of cases was as much as 22.9, but the mortality was only 8.9.

The number of cases of albuminuria are considerably increased by the use of the antitoxin serum, but the cases of true nephritis are diminished. The other complications of diphtheria, broncho-pneumonia, heart failure, etc., are less likely to occur when the serum is used early and in sufficient doses.

The report of the Scarlet Fever and Diphtheria Hospital of New York, 1901, shows that a rash occurs in 25 per cent. of cases treated with antitoxin serum.

The majority of the rashes are either of an erythematous or an urticarial nature. They usually develop from the seventh to the twelfth day after injection at the site of injection. They rapidly spread to other parts of the body, and fade in one to five days. They frequently resemble scarlet fever and measles

eruptions, and are often very difficult to diagnose from these conditions. They are accompanied by restlessness and raised temperature. With the exception of causing the patient additional discomfort, they are seldom of any serious moment. They are generally considered now to be due to the condition of the horse serum, and not to the antitoxin. This has been proved by experiments with non-immunized serum. The rash is more apt to follow large and frequently repeated doses than small ones. The concentrated serums now in general use, have considerably reduced the number and severity of these symptoms.

Another complication from the use of the serum is joint pains. They are usually accompanied by a rash, and occur in about 5 per cent. of cases treated with the serum. One joint as a rule is affected, the pain rapidly spreading to the other joints. The pain at times is severe, increased by movement, but not by pressure. There may be slight swelling and redness about the joints. This condition is also attributed to the horse serum and not to the antitoxin, and has considerably diminished with the use of the more concentrated serums.

The albuminuria due to the injection of antitoxin is of a transient character. True nephritis, as far as I know, has not been caused by antitoxin treatment. An abscess at the site of injection rarely occurs, unless there is neglect of ordinary aseptic precautions.

D'Astras has observed that antitoxin has a tendency to produce uterine hemorrhage, and to increase the menstrual flow, or bring it on prematurely.

Cases of tetanus have been reported, but they are merely an evidence of carelessness on the part of the producers of the serum, and in no way militate against the advisability of its employment.

The latest researches show that antitoxin serum does not appreciably lose its strength if kept in hermetically sealed bottles, even after a year.

In the Medical Annual for 1903, cases are reported of diseases other than diphtheria which have been cured by the injection of the anti-diphtheritic serum, notably asthma, septic

absorption, and croupous pneumonia. These results must be taken with reserve until further investigations have been made.

Dr. Edward Goodall, in the same publication, says: "Isolated cases are published from time to time in which the cure of diphtheria is attributed to antitoxin serum given by the mouth or rectum. Single cases of this kind are of little, if any, value if it be desired to prove that this method of administering antitoxin is efficacious. On the other hand, Hewlett brought before the Pathological Society of London, at a meeting held on February 4, 1902, some experiments which show that this method is valueless.

The administration by the mouth or rectum of the anti-toxins of diphtheria and tetanus to rabbits and guinea-pigs did not prevent these animals from succumbing to lethal doses of the toxins of those diseases administered subcutaneously within a short time; whereas it is well known that the subcutaneous injection of antitoxin acts as a preventive or antidote.

I will now briefly refer to the treatment of diphtheria at the London Homœopathic Hospital.

Before the year 1896 antitoxin had not been used at all at this hospital. Towards the end of that year Dr. Day sent in a case of severe laryngeal diphtheria, having previously injected 10 cc. of antitoxin serum. The case did well without tracheotomy becoming necessary, and left the hospital cured. I think there is no doubt that the prompt injection of the serum had a great deal to do with the patient's recovery. There was one other case treated with serum in that year. The patient was a boy, aged 8, admitted under Dr. Moir with very severe faecal and laryngeal diphtheria. Tracheotomy had to be performed, which was followed by spread of membrane down the trachea and infection of the tracheotomy wound. Antitoxin was administered five days after admission, and again two days later. The patient ultimately completely recovered.

In 1897, out of fifteen cases of diphtheria, eight were treated with serum: the mortality for that year was 13 per cent. In 1898, twenty-six cases out of fifty-two were treated with serum; mortality 10 per cent. In 1899, thirteen out of

a total of twenty-four, with a mortality of 16 per cent. In 1900, fifteen out of twenty were treated, with a mortality of 0 per cent. In 1901, eleven out of seventeen; mortality 5½ per cent.; and in 1902, sixteen out of twenty, with a mortality of 5 per cent. The mortality of the five previous years were 1892, 44 per cent.; 1893, 27 per cent.; 1894, 28 per cent.; 1895, 9 per cent.; and 1896, 25 per cent.

In the five years *prior* to antitoxin treatment fifty-eight cases were admitted; forty-three cured, fifteen died. Mortality 25 per cent.

In the six years in which antitoxin was used one hundred and forty-eight cases were admitted; one hundred and thirty-five cured, thirteen died. Mortality 8.75 per cent.

Thus it will be seen that the mortality of the six years with antitoxin treatment is only a third of the mortality of the five years *prior* to antitoxin treatment.

These statistics compare favorably with those of the Metropolitan Asylums Board. Their mortality in 1892, prior to antitoxin, being 29.15 per cent.; and in 1901, with antitoxin, 11.31 per cent.

In the five years prior to antitoxin twelve tracheotomies were performed at this hospital, with eight deaths; a mortality of 66 per cent.

In the six years in which antitoxin has been used seventeen tracheotomies were performed, with six deaths; a mortality of 35 per cent. or nearly half that of the five years prior to the use of antitoxin.

At the Metropolitan Asylums Board in 1894, prior to antitoxin, the mortality was 70 per cent., and in 1901, with antitoxin, the mortality was 30.2 per cent.

It will be seen from these figures that the introduction of antitoxin serum has had a marked effect upon the mortality of diphtheria cases treated in this hospital; as great an influence, even, as in the hospitals of the Metropolitan Asylums Board. Our death-rate for diphtheria has always been lower than that of other hospitals; but with the combination of homeopathic treatment and early injections of antitoxin the disparity will be yet greater still. This, surely, is the strongest argument in favor of reopening our diphtheria ward, which

has been temporarily closed by order of the Board of Management. Here the ideal treatment of diphtheria cases can, and has been, carried out—the best of nursing and medical skill, combined with antitoxin, homeopathy, and sulphur insufflations.

The doses of the antitoxin generally given have been somewhat smaller than those employed at the other hospitals. Two thousand units is the average amount injected in a case of moderate severity, and repeated if necessary, which is seldom the case. In more severe cases four thousand units are sometimes required.

From the mass of statistics I have perused on this subject I have made the following deductions:

Firstly.—That antitoxic serum greatly diminishes the mortality in all cases of diphtheria, at all ages, whether treated homeopathically or not.

Secondly.—That it decreases the mortality in laryngeal cases, frequently obviating the necessity for tracheotomy.

Thirdly.—That it decreases the mortality in tracheotomy cases.

Fourthly.—That the antitoxin complications are of a trivial and transitory character, rarely causing any serious trouble, and have been considerably reduced in frequency by the employment of the more concentrated serums.

Fifthly.—That the earlier the serum is injected the lower will be the mortality.

Sixthly.—That antitoxin serum does not increase the liability to diphtheria paralysis, and if used early enough will prevent its occurrence.

Seventhly.—That the best treatment of diphtheria is the combination of antitoxin with homeopathic medication.

#### *Discussion.*

Dr. Roche gave particulars of a case of diphtheria in a child in which the extension of the membrane put the child's life in danger, and he had to consider the question of resorting to tracheotomy. In this state of things he consulted a medical friend, and upon his suggestion allowed an injection of antitoxin to be made. In twenty-four hours after the injection the child was markedly better, and recovery was made without

tracheotomy having been performed. He had been treating the child with cyanide of mercury, and when the trachea and larynx became involved he began to give bichromate of potash. He did not wish to use antitoxin if ordinary homeopathic treatment would carry him through. In connection with the early injection of antitoxin he found that there was a tendency to use it in cases in which the medical attendant was not sure that the disease was really diphtheria, and this makes the comparison with cases medically treated unreliable.

Dr. Goldsborough said that it was important that they should consider that antitoxin produced a pathological condition of some kind. On the other hand, there was no question that diphtheria cases of great malignity were transformed by antitoxin into cases of comparative innocence in the course of twenty-four hours. A third point to be noted was that some cases of diphtheria were not malignant, and pursued a benign course. It seemed to him that they were entitled in all cases to use their discretion, and that they were not morally bound to use antitoxin in every case under their treatment. He held that if in their discretion they refrained from the use of antitoxin, and the patient died, they were just as much entitled to a favorable judgment on the result as they would if the patient recovered. With regard to the connection between facial paralysis and the use of antitoxin, more evidence was required. Of course it was obvious that if the mortality was reduced by antitoxin more cases of facial paralysis might occur. He could not see that the antitoxin could in any way be charged with causing an increase of the paralysis. In the American journals of the homeopathic school, a controversy was going on on this point at the present time, and, in his opinion, judgment should be suspended until there had been further research with regard to it.

Lieutenant Colonel Deane raised the question whether the antitoxin treatment of diphtheria was homeopathic or not. If it came within the range of homeopathy they must use their discretion as to whether they gave antitoxin or any other remedy indicated by the clinical symptoms. Was the serum a remedy which was antagonistic to the pathological cause of the disease apart from the symptoms presented by individual patients?

Dr. Stodham wished to support Dr. Goldsborough's view that they would not be doing anything criminal if they refrain from the use of antitoxin serum. His own experience of diphtheria was gained mostly before antitoxin was discovered, and he had got good results from the usual homeopathic remedies. He believed that antitoxin was a most val-

uable remedy in laryngeal cases, but he did not think that as homeopaths they would do well if they took the line indicated by Mr. Harris, and injected antitoxin immediately in every case. He thought that better results would be gained if they tried the homeopathic remedies first. He believed that antitoxin increased the tendency to paralysis. He thought that a free hand ought to be left to them whether they should use antitoxin or other medicines.

Dr. W. Roche said that they were, of course, all convinced that they had had very good effects from their homeopathic remedies long before there was any serum to be used, and they would naturally feel inclined to go on in the same way; but they were not now quite free agents. The attitude of the public was a very important point. He had recently had cases in which he would have been very seriously blamed if he had not used the serum. He certainly felt disposed to use the serum in the treatment of diphtheria both before and since the intro-

Dr. Blackley said that he had had a great deal of experience in the treatment of diphtheria both before and sinc the introduction of antitoxin. His experience was precisely the opposite to that of Dr. Stodham with regard to facial and other paralyses. He had seen fewer paralytic or neurotic symptoms where the serum had been used than under homeopathic treatment alone.

Dr. Thomas said that if he had any suspicion of a case being diphtheria he injected antitoxin without waiting for a culture, and he thought that that course was justifiable. If they waited twenty-four hours for a culture the patient might succumb.

Dr. Watkins said that he should like to ask whether any of the members of the Society had been in the habit of using irrigation of the fauces with an antiseptic lotion. He had heard of this being done by means of an india-rubber syringe. It seemed to be very good as a local treatment. But he had been afraid to adopt the method in the case of children, lest the antiseptic should be swallowed. Since 1897 he had been using antitoxin with homeopathic treatment and he had been very pleased with the result. He had had a good many cases in private practice, some of which had been of a very virulent type—hemorrhagic and one was complicated with hemorrhagic nephritis but he had only lost one patient. While he was house physician in the hospital, he had the misfortune to take diphtheria from a child, and he was treated with anti-toxin, and in twelve hours he felt very much better and the improvement continued.

The President said that he began the use of antitoxin serum very early, and he had only unqualified praise to give it. As

to the paralysis, he believed that it was produced by the diphtheria poison, and that the longer that poison was allowed to work in the body the greater would be the probability of paralysis. The sooner the poison was neutralized by antitoxin the greater was the chance that the patient would recover without paralysis. He had lately had some experience of the prophylactic use of antitoxin. An epidemic of diphtheria broke out in the Westminster School, where he had some patients. The whole school was subjected to the prophylactic use of the antitoxin serum, and the further spread of the disease had been prevented. He had not heard that any of the boys had suffered in any way from the use of the serum. Rashes and other troubles arising from the injection of the serum were now comparatively rare.

Mr. Clifton Harris, in replying, quoted from the statistics contained in his paper in answer to the inquiry which had been made as to the results of homeopathic treatment with and without antitoxin. The use of antitoxin appeared to be the only thing which would account for the diminution in the death rate in diphtheria cases. A speaker had asked why deaths occurred at all when antitoxin was used. He did not claim that antitoxin was omnipotent, and the diphtheria poison was in some cases too strong even for that remedy. With regard to the statement that paralysis occurred more frequently in cases which were treated with antitoxin, he could only repeat what he had previously said in the paper. As to laryngeal cases, the statistics which he had given showed that they were reduced to one-half when antitoxin was used. He thought that there should be no option at all with regard to the giving of antitoxin. That remedy ought to be given as soon as diphtheria was suspected. There were different views as to whether antitoxin was homeopathic. One view was that it was rather a step in advance of homeopathy. The action of a homeopathic medicine was to stimulate the cells to produce an antitoxin, but in the treatment of diphtheria by the serum the antitoxin was presented ready made. Personally he did not care whether it was homeopathic or not, and he did not think that it mattered as long as they got the results they desired.



#### INTRODUCTORY ADDRESS, BUREAU OF PEDIATRICS AMERICAN INSTITUTE OF HOMEOPATHY, 1903.

BY ANNIE WHITNEY SPENCER, M. D.

As it is true, that time in its incessant cycle continues to move on, so it is equally obvious, that from time immemorial,

the enemies of human nature have seemed to center their destructive energies upon the infancy of the human family. It behooves us then as physicians, to strive with never ceasing diligence in the acquisition of a knowledge of the causes of these destructive forces, and of the agencies that may be used to counteract their baneful effects.

"The health of man is in incessant strife with ignorance, and this struggle commences with the first moments of his life. I predicate therefore, that the subject of Pedology demands a greater degree of thought and study, than any other branch or subject which this institute has to consider. As it has to deal with the very important; yea, vital factor of building a firm foundation, or superstructure of health from the time of the first maternal impressions until puberty, how important it is then, that we be fitted to put in readiness this little machine, before it starts out on its laborious work of thrashing its way out of the struggle. Not only fitting ourselves as physicians, caring for the physical health of the children, but as teachers, instructing the parents respecting their duties in the mental and moral training of the offspring during the incipient stages of its existence—not being content with reducing congenital deformities, but congenital incapacities if possible, as well; so that we may be able to deny the aphorism, "One who is born with such congenital incapacities that nothing can make a gentleman of him."

Notwithstanding the diligent and painstaking research which is being prosecuted by the medical profession—excepting, perhaps in a single instance or two—has there been any marked progress made in the treatment of the diseases of children in a medicinal way, during the last year? Or, is it true, that the school of Homeopathy is so nearly perfect in its theory and practice, that there is no room for improvement? If we could say, that in the last year, we had just discovered the "action of each remedial agent used," or, not "to give the same remedy in all stages of a disease;" or, not "to give coincidently two or more remedies that are more or less antagonistic in their effects upon the cure of the malady from which he suffers;" and again, if we could say, "it is a lamentable fact, that the physiological action of

drugs is so little understood, and that the remedies are used empirically on someone else's say so," until within the last year, we might herald to the world great improvements in our school of medicine. But, when we read such statements as above, quoted from an old school journal, we cannot but feel that we have not lagged behind in scientific medicine.

It is a gratifying thought that a leading physician of the old school should wake from his Rip Van Winkle sleep long enough to discover the fact, that the physiological action of drugs is so little understood by the dominant school. Homeopathy taught this more than a hundred years ago, and from its infancy then, it has grown, flourished, and ripened into sturdy, stalwart manhood; ready at all times to do battle against ignorance and disease with its motto, *similia similibus curantur*, as true, and as firmly fixed in the therapeutics as are any of the immutable laws in the economy of nature; and which principle stands an imperishable monument to the honor of our immortal Hahnemann, the father of scientific medicine.

A retrospective view of the practice of medicine for the last century reveals to us the fact that most wonderful discoveries and improvements have been made; not only in the manner of preparing remedial agents, but in the application of them to diseases; and, nowhere in all the realm of therapeutics, is this more apparent than in the treatment of the diseases of children. Then, in considering the subjects that come before us, let us not lightly pass over the matter of Homeopathic Therapeutics as applicable to children's diseases, and which has been such a godsend and salvation for the little ones.

Surgery, Pathology, Bacteriology, Serum Therapy, Suggestive Therapeutics and all the adjuvants to medical science are important, and should receive proper consideration; but, in our researches we should be careful lest we become too enthusiastic over some imagined discovery before we have grounds for our enthusiasm; in the meanwhile, forgetting the importance of our *Materia Medica*, that has stood the test of criticism and trial so long—often casting suspicion upon it, when the fact exists that the error was ours in ap-

plying the remedies. What I desire to emphasize is, that in our practice, we should adhere most strictly to the principles of Homeopathy, and not allow fads of any kind to divert our attention from the fact, that the *Materia Medica*, as taught by our school, is of first importance.

Let us not cast it aside because of seeming difficulties which beset our way; nor, because we are not always successful in the treatment of every case; nor, because we seem to fail in selecting the remedy best adapted to the symptoms; for, we may be sure, should we prescribe empirically, we will have turned the hands on the dial of medical progress backward an hundred years, and will have inflicted untold misery upon our children, and the generations that shall come after them.

The mixtures called medicines, manufactured and sold by the so-called medicine companies which have sprung up recently all over this country, are a complete representation of empiricism in medical practice. They are dispensed by the practitioner who uses them "on someone else's say so," empirically. They are empirical humbugs, which, with the other nostrums, called patent medicines, should be relegated to the pharmaceutical *scrap-heap*, as unworthy the least attention of the scientific medical investigator.

The ease and facility with which Homeopathic remedies are administered, and the marked beneficial results that follow, compared with the old school practice, has forced the admission from our opponents that "Homeopathy may be good enough for children." Well, thank Hahnemann for it; for there never was anything before its introduction for the little ones but a physical struggle against disease and ignorance of the medical profession, resulting in the survival of the strongest only.

## Current Comment

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Moses T. Runnels, M. D.:

Dietetic and hygienic influences go far in the *preparation of the pregnant woman for accouchement*, and every case should be treated in advance by some skillful homeopathic obstetrician. All cases are made easier and safer by previous treatment. I believe that not only the physical status of the pregnancy can be improved by homeopathic medication, but the unborn child can receive protection from phthisis pulmonalis, rachitis, scrofula and other ills by the timely administration of the simillimum to the mother. In the administration of remedies to improve the physical status of pregnancy, it is all important that the medical attendant shall exercise the greatest care to prescribe according to the totality of the symptoms, and when he is unable to decide what the homeopathic remedy is he would better give pulsatilla. This remedy is surely the *sine qua non* in the majority of all cases before they reach the second stage of labor. For twenty-three years I have used it in pregnancy and labor and have studied the meadow anemone thoroughly, patiently, and perseveringly. It has disappointed me less in the treatment of pregnant women than all other remedies together. Changeableness is the great characteristic of pregnancy, as well as of the wind flower, and in almost every case you will find many symptoms of this remedy.

Next to pulsatilla, actea racemosa or cimicifuga stands as a great remedy to promote a healthy state in pregnancy and finally a normal labor. For distressing pains not intermittent, a high degree of nervousness and neuralgia from uterine irritation, actea racemosa takes first place. For false labor pains caulophyllum is of equal value with pulsatilla; it will control intermittent, neuralgic and reflex pains from uterine disorder. The pains are spasmodic and fly about from place to place.

I have had splendid results from the use of viburnum opulus in the beginning of miscarriage and threatened abortion with intense cramp in the uterus or bearing down; or pain around

from the back, ending in excruciating cramps in the lower abdomen. When cramps appear in the abdomen and legs of pregnant women, there is no better remedy. Cuprum arsenicum is a remedy of great value in cases of uræmic convulsions. It should be used in the third potency. It is also a good remedy in the vomiting of pregnancy when there are spasmodic uterine pains with general debility. I have found gelsemium to be wonderfully efficacious in the treatment of puerperal spasms preceded by great lassitude, dull feeling in the forehead and vertex, fullness in region of medulla; head feels big, heavy, with half-stupid look, face deep red, speech thick, pulse slow, full; from protracted labor, rigid os uteri and albuminuria. Convulsions from reflex irritation. Hysterical convulsions.

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#### H. T. Nelson, M. D.:

An *infant completing its first year* in the latter part of June, July, or August gives us more anxiety than any other. The eruption of the canine teeth is now generally taking place and extra attention and care is required. In general, I would say that during this very overheated term I would curtail the amount of food ordinarily ingested, reducing both quantity and strength to that ordinarily administered to a child of one-half the age.

This may seem rather strange, but my observation is in decided accord with such a procedure. It is decidedly better than attempting to carry a full food supply and undertaking to make it agree with the child by the employment of an artificial digesting agent.

Should such measure of reduction of quantity and strength fail, however, the milk may be predigested before being combined with the water.

Sometimes it happens that in bottle-fed babies a condition of marasmus will supervene notwithstanding all apparent care. In several of these cases I have observed very marked improvement following the occasional exhibition of orange juice, expressed juice of ripe peaches, and pineapple juice, given, of course, as an extra to the other food.

John T. Wheeler, M. D.:

Can we quite acquit ourselves of the imputation of too often trusting entirely to luck under the temptation of sixty chances to one against *ecclampsia*, and two hundred to one against a death from it? Is it not true, that the disposition to take one's chances is a very common practice, and that all of us occasionally, and many of us frequently, and some of us always, enter the lying-in chamber with no information whatever of the patient's kidney function? Can we claim at all that our conscience toward uræmia is as clear as the conscience of the surgeon is toward sepsis?

I consider it a radical error on the part of the profession to permit the laity to remain in ignorance of the nature and tendency of the kidney disease of pregnancy. Since they have no means of acquiring the acquaintance subjectively, the women should be taught it. They should be made to understand its insidious nature, and their own insecurity, and to emphasize the instruction by an object lesson, and to provide them with at least one obvious danger signal, they should be taught to examine their own urine at stated intervals for albumen. They should have all the comfort that the absence of albumen under the circumstances would indicate, and feel all the concern which its presence might imply. They should make the test twice a week from the sixth month onward, and be ordered to notify us when the test ceases to be negative. It will not do to claim that a woman who knows when an egg is cooked cannot test for albumen.

To the objection that it will make the woman nervous, we may plead the higher need; to the objection that she will be careless, we may offer a "not proven." It would relieve us of much drudgery, which we do, or do not perform, but it would not absolve us entirely from oversight.

If a familiarity of this kind with the test for albumen became general among women, so that it extended to the poorer classes, it would bestow the blessing of prevention upon the one class now utterly deprived of it, and otherwise utterly inaccessible. Its ultimate diffusion and adoption, as a general practice, is as possible as would be the interest now felt in maternal impressions, if that were new.

Finally, that it is practicable, I can offer an experience of many years. I began it twenty years ago, with a woman whose six successive pregnancies had ended in convulsions at from three to six months. I found supervision particularly irksome, because she began so early, and would develop a toxic explosion within three days. With the seventh pregnancy, she began the tests for herself in the second month, and continued them satisfactorily until the middle of the fifth month, when she got the warning which she well understood. After that I conducted the examinations. In this instance, if the woman had not made the daily examination herself, she would have miscarried again. Labor came on after a hot bath in the thirty-fifth week, and was normal, the child living.

I always teach my cases to make the test, if they reside at a distance, or are poor, or there are any other obstacles to personal supervision. I find the women do not neglect it, and they help to keep me up to the mark. I have known of the practice extending beyond my patients to their acquaintances, and have had women come to my office for test tubes whom I did not attend.

I am disposed to believe if the practice were encouraged by the profession, it would gain a foothold among the people, although I dare say it might develop some abuses and limitations of usefulness.

I may say I am optimistic in regard to the growing interest in the profession concerning prevention, and I think the time is not far distant when we shall hold ourselves, and be held, responsible for the occurrence of any preventable eclamptic attack.

I see no reason why, in process of time, devotion to a high ideal in this particular, under a new standard of professional obligation, should not reward our zealous efforts with a close approach to complete extinction through prevention of puerperal eclampsia. And when we shall have done all that, we shall have done our whole duty by our patients and ourselves.



A. E. Gurd, M. D.:

In the treatment of *mastitis*, given a case with a history of a sudden chill, followed by an elevation of temperature, a gen-

eral sense of malaise, a breast presenting one or more tender spots, which may or may not be hard, with a certain amount of discoloration of the skin;—ascertain, if possible, whether or not pus is already present, but, unless the indications of pus are very clear, temporize and institute treatment as follows:

First, systemic; giving a saline cathartic to relieve the engorgement of the breasts; aconite in small repeated doses, to allay the fever; and a remedy if necessary to abate the pain.

Then, localizing, massage the breast very gently, but firmly and systematically, working in the line of the milk-ducts and reducing friction by the use of an emollient. Ten minutes' thorough massage usually gives great relief to the patient, unless the mastitis is of the interstitial variety. As the diagnosis of the varieties is rather difficult, massage should be tried in all doubtful cases, and if it fails to decrease, or if it increases the pain and soreness, it should be discontinued. After the massage, apply a firm binder and outside of this, continuously, either ice or dry heat, whichever is best borne by the patient, leaving the breast otherwise undisturbed for one or two hours. Then repeat this process, in addition drawing a certain amount of milk if necessary. In many cases, however, the massage, properly applied, will draw off sufficient milk to render other means superfluous.

If the patient improves, even slightly, under this treatment, continue it day and night, gradually lengthening the periods of abstention from massage, until the congestion has entirely disappeared.

If, on the other hand, the pain becomes more severe, and is heightened by movements of the arm on the affected side, if the part is more tender, and the temperature remains elevated, with recurrent chills, a lessened flow of milk and oedema of the skin, search for pus.

In case of superficial abscess, the ordinary surgical treatment is called for, bearing in mind, however, that we should make the incision parallel with the milk-ducts. But in case the inflamed area is deeper seated, I consider the method introduced, or at all events popularized, by Dawbarn, of New York, in the early nineties, the best.

Make a half-inch incision through the skin and superficial

structures, then search carefully with a grooved director until you find the pus focus. Then stretch your incision with dressing-forceps until it will admit the finger and with the finger explore the gland, breaking down pus-pockets, and if necessary, make secondary openings. Press out the pus carefully and wash out gently but thoroughly with an antiseptic solution and pack with sterile gauze. Then dress the breast with every aseptic precaution and adjust a binder which will exercise firm but gentle pressure. The dressing should be untouched for from twenty-four to forty-eight hours and then re-applied as at first.

The older method of large incision and very free drainage probably shortened convalescence, but the injury to the gland structure was very serious, as many of the galactophorous ducts were cut across and thus further functionment of the gland was more or less crippled.

I consider that it is a woman's most important duty and privilege to nurse her child, and we should avoid, as far as possible, every interference which jeopardizes her ability to do so.



#### A. B. Knowlton, M. D.:

In a case of *post-partum septicemia*, the first procedure should be a careful curettage, and this should not be postponed longer than the first twenty-four hours of positive involvement. After this, it is my advice that continuous irrigation should be instituted and maintained until fever, sweats, and rapid pulse disappear.

Let us suppose that we are treating two cases of puerperal fever identical in every particular except that in the first case we practice periodic irrigation every four hours while in the second we administer it continuously—is it not evident that in the first case we would have reabsorption between the washings? And is it not equally evident that in the second case reabsorption would be altogether prevented by the fact that all separated sloughs would be washed out as soon as they became free?

The contrast is to my mind a most striking one and has been borne out practically. I recall one case of puerperal sep-

sis which would most assuredly have died had I not resorted to continuous irrigation. I practiced repeated curetages and administered an intra-uterine douche every three hours. The patient grew steadily worse until I stopped both procedures and substituted continuous irrigation. In a case of broad ligament pregnancy taken to my Infirmary I found it impossible to keep temperature and pulse down by even so frequent irrigations as every hour. I substituted continuous irrigation and continued it for nearly two weeks; using one hundred gallons of fluid every twenty-four hours. This was necessary so long as the hematoma continued to slough. Several attempts to substitute periodic for continuous irrigation were made, the patient's condition becoming worse each time. Both of these cases recovered. I have employed the continuous irrigation successfully in private houses by using only the fountain syringe, the tube of which was constricted sufficiently to permit only a slow flow. I have on one occasion, where it was impossible to obtain sterile water, instructed the family to keep the flow on even if they had to use luke-warm non-sterilized water—in this case, however, bichloride was used by me twice each day. This patient recovered. I believe that those of you who care to adopt this treatment in some future grave case, will not be disappointed in its results.

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Simon Marx, M. D.:

In view of the much-disputed point, even to this day, in regard to the *bacteriological findings in the puerperal uterus*, I undertook the following investigations, hoping as a result of them to prove one way or the other the following problems: 1. Is the puerperal uterus a sterile organ? 2. In what way does a uterus free from bacteria influence or assist us in diagnosing a non-septic condition? 3. As a result of these investigations, how is our treatment of the parturient state to be influenced? To approach the first problem as to the bacteriology of the puerperal uterus, I examined by means of culture tubes the uteri of fifteen women, taking them as they presented themselves after labor; consequently they were unselected cases. Upon these I made forty-eight bacteriologic tests. In only one case was a positive result obtained, which warranted me

in making a diagnosis of puerperal sepsis. This was verified by the subsequent course of the illness and the characteristic lesions. Among the remaining forty-seven examinations in fourteen women, I had only two positive results, and those could be explained away on the ground of an error in technique. I was prepared to answer affirmatively the question that the uterus was a sterile organ, and experiments justify me in appending the three following deductions: 1. The presence of bacteria in the puerperal uterus, in the absence of general evidence of a constitutional disturbance such as fever, pulse rise, etc., means the introduction of such bacteria by accidental contamination. 2. The presence of bacteria in the puerperal uterus accompanied by fever, rapid pulse, and other disturbances means, in all probability, a sepsis arising from the uterus. 3. The absence of bacteria in the puerperal uterus in the presence of general symptoms (temperature and pulse rise) means the necessity of looking for the source of the disturbance in some organs other than the uterus; sepsis from the vagina or vulva, or some general disturbance independent of the puerperal condition.

We approach this subject by studying the genital tract from the standpoint of bacteriology, and further, by the discussion of the thorough asepsis of those objects that come in contact with this genital sphere. As to the genital tract, we have attempted as far as lay within our power to prove, at least to our own satisfaction, that the puerperal uterus is practically a sterile organ.

The second portion of the genital tract to be considered is the vagina. Naturally, its bacteriology bears strongly upon the subject under discussion, but cannot be entered into as fully as we should like, because it is beyond the scope of the paper. Suffice it to say that from a vast amount of scientific research we must presuppose the large number of "parturientes" to have a vaginal secretion which possesses a decidedly inhibitory action upon pathogenic organisms, *i. e.*, streptococci, staphylococci, etc. A secretion which possesses such qualifications obtains in the normal vagina at all times. This secretion is acid to a marked degree, sticky and gelatinous. Its inhibitory action depends upon the presence of lactic acid produced

by Doederlein's bacillus. When we find such vaginal secretions present, and this can be determined clinically by sight and touch, we have a vagina that is surgically and aseptically prepared—one that requires no artificial preparation to enable us to conduct labor scientifically. It has been proven beyond the shadow of a doubt that neither the staphylococcus albus and aureus, nor the streptococcus pyogenes, nor the bacterium coli communis are to be found in the healthy vaginal secretion of the pregnant woman. Even after accidental contamination with these organisms they retain their virulence for a very short time only. Reasoning from these premises, we again must admit that the vagina of the healthy pregnant woman is a sterile organ.

But the condition of the third portion of the genital tract, the vulva, is different from that of either the uterus or the vagina. In the very greatest number of women the discharge from this territory contains bacteria which propagate actively, especially in the presence of air and in an alkaline medium. The bacteria most frequently found are the staphylococcus aureus and albus and the bacterium coli communis. Thus we are dealing with a region which is decidedly a septic or at least an infective one, just as is the ordinary skin, and must be treated as such according to well-known surgical principles. Therefore, in the management of an obstetrical case from the modern standpoint, we have but one area which must bear the brunt of our energies so as to render it sterile. This is done in the usual fashion by means of both mechanical and chemical agents. This is the limitation of our preparatory treatment so far as the normal woman is concerned, and under these conditions no antepartum douches, no scrubbings, etc., except of the vulva, are permissible; for if such means are employed, the possibility of the destruction of nature's safeguards, thereby exposing the patient to infection, is ever present. So firm is my confidence in nature's ability to destroy every possible pathogenic germ that may be introduced by operative interference that when the asepsis of the operator cannot be questioned, no uterine or vaginal douche is ever allowed either before, during, or after the operation. The state of affairs is different when from bacteriological experience or clinical de-

mnonstration this inhibition does not obtain. Under such conditions the vaginal secretion is alkaline in reaction, profuse in amount, malodorous and purulent. Here we have to deal with a pathological condition which in most cases is a gonorrhreal infection. The indication now is prophylaxis, and therefore we anticipate the labor by giving profuse and repeated douches; and when labor sets in, and the discharge is not normal, surgical scrubbings such as are done before a major vaginal operation are distinctly called for. When in these cases, which we can call pathologic ones, the labor is prolonged, we are accustomed to administer vaginal douches at short intervals with the hope of destroying or at least inhibiting the action of thes pathogenic organisms. In approaching the accouplement of a normal case, we never allow the use of vaginal douches at any time. As far as lies within our power, we render the external genitals sterile by thoroughly scrubbing them with soap and water followed by liberal external irrigations of some antiseptic solution. This is preceded by local sponging with diluted alcohol. The strictest attention must be paid to the hands of the examiner, for since we have so forcibly asserted that the healthy parturient vagina is naturally in an aseptic or antiseptic condition, there can be only one source of infection directly or indirectly, and that from the accoucheur and from without. Self-infection is so rare that for practical purposes it hardly has any bearing on the subject before us.

Whether gloves should be employed or not is simply a question of taste; but their use must always be regarded as evidence of a lack of confidence on the part of the operator in hand disinfection. We have never considered their use of very much value as a means of limiting a possible infection. We believe in surgical cleanliness, both mechanical and chemical, by what means we care not so long as it be thorough. The method we have always used has been step by step, green soap, 95 per cent. alcohol and 1-1000 bichloride solution. When in recent contact with a septic case, a preliminary scrubbing with permanganate of potassium and oxalic acid solution immediately precedes the ordinary hand disinfection.

Further in these healthy women, no matter what form of

operative treatment has been undertaken, whether the forceps has been applied or a version done, or for any reason the hand has been introduced into the uterus, we have not for many years allowed the genital tract to be washed out or irrigated for the sole purpose of washing out, or at least of attempting to eliminate or limit sepsis which under these conditions might have been introduced. We feel that the genital tract of these women is at all times well protected and that the only source of infection can be the operator's hand. If this be clean, there can be no source of infection; then why wash out the uterus simply because a clean hand has been introduced into a clean organ? To our minds it is just as fallacious to do this under these conditions as it is to wash out the peritoneal cavity after a clean abdominal section; then why wash out in a clean labor simply because the hand has been introduced to remove an adherent placenta? An intra-uterine douche will wash out blood clots and cause a uterus to contract; but we are very much in doubt whether such washings ever can by any possibility wash out any but the germs that lie on the surface. These are the ones that do no harm; those that lie under the uterine mucosa, which situation they reach with great rapidity, are the ones that do the damage, and it is these that no form of irrigation can sweep out of the genital tract. We go still further and state that even in the cases that are known to be infected, no uterine douching after labor can be of any service in eliminating the infection, and under such conditions it has been our custom to attempt to limit this infection by first causing a firm contraction of the uterus, and, secondly, by the use of a remedy which will be rapidly absorbed and which, by its antiseptic properties, will destroy the germs that have already been absorbed and lie in the deeper structures of the organ. This end is obtained by the firm packing of the uterus with a reliable iodoform gauze.

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George L. Cole, M. D.:

No class of cases have given me such annoyance as *occipito-posterior presentations*. The text-book could with profit give more attention to these cases; 96 per cent. correct themselves, and of the 4 per cent. many if

seen early can be corrected. A prolonged first stage with short, rapid pains, should arouse suspicion. Experiments justify interference long before head reaches perineum, to prevent occiput entering back of pelvis. We are usually urged to do prodalic version. The remedy is to try to render flexion complete; the occiput will come low and rotate to the front; again anaesthetize fully; push the head up and rotate till pushed down again by pain. These cases are tedious in the extreme, and early diagnosis is desired; there is abundant time for the use of forceps and in using make traction with the handles low.

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Marvin E. Nuckols, M. D.:

I believe that all primipara should have chloroform during the latter part of the second stage of labor, because it quiets the woman, who is usually nervous, slows labor somewhat, allowing the parts to relax, and will give time to shell out the head. To prevent *lacerations of the perineum* we must remember the axis of the pelvic outlet, and in using forceps always make traction in the axis. Usually it is better to remove the forceps when the head presents at the vulva. In vertex presentations always maintain flexion, particularly in posterior positions, so that the occiput will rotate to the front. When the occiput presents at the vulva hold the head back till the neck engages under the symphysis, then place the left hand over the parietal eminences, making pressure, and insert two fingers of the right in the rectum and make traction, allowing the head to extend during the intervals between pains, if possible. After the head is delivered, give your attention to the shoulders, for they often cause laceration after the head has escaped without damage. Lift the head towards the mons veneris and insert two fingers under the lower shoulder, letting them act as a plane over which the shoulder glides, then lower the head and deliver upper shoulder. Episiotomy is recommended by some as a means of preventing laceration. I have never resorted to it, and do not think I ever shall, as it does not seem to be based on sound principles.

Sigmar Stark, M. D.:

Within the past few years it has been my custom to advise all my primiparæ, and all of the multiparæ, who have had difficult births on account of the size of the child, or dystocia from uterine inertia, etc., to *modify* their *diet* in order to *limit the size of the child*, and I have now come to the conclusion that such a thing can be done. We all know that the size of the child increases principally during the last three months of pregnancy, and it is during this period that I instruct my patients to restrict their diet, telling them to limit the amount of fluids per day to one-half litre altogether, likewise to abstain from saccharine food, eat no sugars at all, limit the amount of bread-stuffs to two and one-half ounces in twenty-four hours. Their food should be principally lean meats, green vegetables, fruits, and salads, together with the amount of bread-stuffs and fluids mentioned. I firmly believe that such a course does have an effect on the size of the child. Aside from the influence exerted on the size of the child, I am sure that it influences the amount of amniotic fluid. I have noticed this in several cases. I was particularly impressed with this fact in a recent case where there was a very moderate amount of amniotic fluid, the uterus going on to full dilatation without rupture of the membranes, whereas in two or three previous labors she had a premature discharge of the amniotic fluid, the labors being practically dry, the woman suffering subsequently with uterine inertia.

The reason there will be less amniotic fluid present if my idea of restricting the amount of fluids ingested is this. If the mother takes little water or other fluids there will be less in the circulation of the mother as well as in that of the child. If there is less in the circulation of the child there will be less discharged by the urine, and consequently less amniotic fluid.

Naturally, I would not think of restricting the amount of fluids ingested if a woman had the least bit of disturbance in her kidneys. I believe, however, that the great danger to pregnant women is from the introduction of intestinal toxins into the circulation, which toxins in great part must be eliminated by the kidneys, thereby inducing irritation in them. I think such a condition is much less likely to occur in a woman

who abstains from rich food. It is because of this careful plain diet, which does not disturb the process of digestion, and thereby not producing intestinal toxins, that she is less likely to irritate her kidneys and develop a nephritis.

If you restrict the diet of the mother and do not allow her such food as will produce much fat, naturally you render the child less corpulent, but, of course, the diet must be such that the mother and child will both receive the proper amount of bone and muscle forming materials.

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C. D. Lockwood, M. D.:

Following an operation such as an anterior colporrhaphy for *cystitis in the female*, an important part of the after treatment consists in draining the bladder with a self-retaining catheter, until the vaginal walls have firmly healed. Thus the bladder walls are placed completely at rest, and permitted to regain their normal tone. At the same time the base of the bladder is free from tension, and as healing progresses the floor of the bladder gradually rises to its proper level. No irrigation should be used, but urinary antiseptics by mouth are valuable in maintaining a sterile urine after continuous catheterization is stopped.

Continuous catheterization has found a wide field of application in my hands. Many cases of cystitis without retention yield to this treatment. In the female, a self-retaining catheter may be left in for several weeks without danger. It affords complete relief while in place, permits the patient to obtain uninterrupted sleep, and places the bladder in the best possible condition for recovery. In fact, in all but the most intractable cases I find it meets all the indications for bladder drainage.

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George B. Somers, M. D.: .

A case which involved the *correction of an imperfect operation* is interesting for several reasons. In the first place the symptoms were misleading, inasmuch as the clinical evidence pointed strongly toward a malignant growth, while subsequent operation proved that the condition was due to a previous imperfect operation. My at-

tention was first called to the case by a nurse. The patient had been in a local hospital for several months, but was told that her case was inoperable. All that was expected by the patient was something to relieve her of excruciating and, more or less, constant pain. A hasty examination brought out the following points: She was apparently cachectic. The pelvic cavity was filled with an irregular mass. She gave a history of a previous hysterectomy, saying that the uterus had been removed for cancer. In spite of this history it was considered that there was a reasonable doubt as to the existence of cancer and the case was investigated more carefully. The following is the history:

Mrs. J., housewife, age forty-four, has had six children and two miscarriages. Menstruation began at fourteen, has always been regular and usually lasted four or five days, without pain. Has had malaria, pneumonia, scarlet fever, measles, whooping-cough. Had a light attack of inflammation of the bowels fifteen years ago.

Two years ago, while living in Omaha, she had pneumonia. During convalescence several hemorrhages from the uterus occurred, lasting four or five days. She was examined by her attending physician, who told her that she had cancer of the uterus. She was operated on, and, according to her account, the uterus was removed, but the ovaries left. Five weeks following the operation, the patient had a severe attack of pain. This passed away in a few days, but recurred frequently at intervals of about a month. These pains increased in severity until they became unbearable. The pain was located on both sides of the lower abdomen and extended back to the rectum. For the past seven months the pain has lasted six hours every day, for three weeks at a time. She would then have about a week of comparative comfort. During these months she has been practically bed-ridden, spending about two months in a local hospital under the observation of its staff. Was told that the condition was of such a nature that nothing could be done for her.

Her physical condition was now extremely poor. She was thin, weak, and anæmic, with a sallowness that resembled a cachexia. The heart, lungs, and kidneys presented nothing

abnormal. A pelvic examination showed the vagina perfectly smooth, without evidence of inflammation, ulceration, or discharge. On close questioning, she said that she had never had any foul-smelling or grumous discharge. Bimanual examination showed the pelvic cavity filled with irregular masses, which were rather boggy than fluctuating. In the median line, corresponding to the situation of the uterus, a globular, freely movable mass could be felt, but it was supposed to be pathological, because of the history of the removal of the uterus.

The results of the examination were strongly against the presence of a cancer, because, if the original trouble had been malignant, if of two years' standing, and if now large enough to fill the pelvic cavity, it would certainly, by this time, show some signs of breaking down. The patient was informed that there was considerable doubt as to the malignancy of the trouble, and was advised to submit to an exploratory incision.

As soon as the abdomen was opened, the enlarged uterus presented itself, with tubes and round ligaments uninjured. The original operation then, had not been a hysterectomy. The spaces on either side of the uterus were now found to be filled with cystic masses.

On attempting to remove the mass on the left side, the cyst was ruptured, giving vent to a large amount of brown, syrupy fluid. The right side presented a similar condition. The fluid was undoubtedly menstrual. Altogether about a quart was removed. The uterus appendages and remains of the cyst walls were completely removed. The cause of the condition was clearly a previous amputation of the cervix, which had been followed by a stenosis of the uterine canal. There was absolutely no evidence of cancer present. The patient recovered well, and is now in comparative good health.

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John W. Cousins, M. D.:

When we consider the great risks which surround *ectopic gestation*, it is certainly not a matter of surprise that so small a number of these cases ever reach the third or fourth month, and that only a very few attain an advanced stage of development. It is evident that there must be some special and favorable conditions occasionally present which powerfully aid in

maintaining the development and vitality of the fetus. What, then, are these conditions? Their consideration, I think, opens up many interesting questions.

1. During the early stage of ectopic pregnancy the ovum is very movable, and as the expansion of the tube proceeds it continues to develop outside the peritoneum and opens out the loose structure of the broad ligament. It may occupy in the pelvis very variable positions. Sometimes it is in front of the uterus, or it may be on one side of that organ, or it may be deeply lodged in the pouch of Douglas. As the pregnancy advances the uterus may remain in the pelvis, or it may be drawn upwards by the ascent and expansion of the gestation sac. Mobility of the sac is generally well marked during the early months, and in favorable cases the ovum continues to be a movable swelling through all the stages of its development. On the other hand, if this essential mobility is hindered by its impaction in the pelvis, or by adhesions to the surrounding organs, the chances of continuous growth and vitality are greatly reduced.

2. Another favorable condition consists in the gradual expansion of the gestation sac. In advancing cases the symptoms of rupture of the sac are very indistinct, and sometimes they are altogether absent. Its wall appears to undergo a slow process of stretching without any marked laceration of its fibrous structure. It is a remarkable fact that the ovum undergoing an evolution of such rapid and delicate changes can ever escape destruction; but we may be certain that its occasional safety is the result of the gradual expansion of the normal coverings of the embryo, and the support they obtain from plastic exudation and fibrous consolidation. Whenever slight rupture takes place, it is with very few exceptions, extra-peritoneal, and the openings are soon securely plugged without any serious hemorrhage or disturbance of the placental circulation.

3. Favorable cases of ectopic gestation are marked by the early ascent of the gestation sac towards the abdominal cavity. The direction it may take is variable. It may advance almost vertically, or it may early assume an oblique position, and as it ascends it carries before it the peritoneal covering of the pelvic

viscera, and then the peritoneum of the anterior abdominal wall. sometimes the sac becomes firmly encysted in Douglas's pouch, or fixed by adhesions in the pelvis, so that its ascent is entirely prevented. In other cases the upward movement is incomplete and partial, and the sac gets stretched backwards towards the spine, and the broad ligament around it becomes condensed and thickened by the irritation of the growing ovum. The expansion may also take a downward direction towards the pelvic floor, and when in this position urgent symptoms are often excited, accompanied with displacements of the uterus and of the other pelvic viscera. As a general rule, every case of ectopic gestation, in which from any cause the sac becomes locked in the pelvis and stopped in its ascent towards the abdominal cavity, seldom advances beyond the fifth or sixth month, as the fetus is destroyed by the compression of the surrounding structures, and by interference with the placental circulation.

4. It has long been recognized that the advance to the full term of an ectopic gestation is greatly influenced by the position of the placenta. After the arrest of the ovum in the tube it becomes attached to the internal surface, and the vascularity of this spot undergoes a rapid increase. The tube wall gradually expands, the chorionic villi soon surround the ovum, and the future position of the placenta is fixed, but, as the fetal development proceeds, this organ passes through much shifting and stretching caused by the expansion and elevation of the gestation sac, and during these changes there is the risk of hemorrhage and rupture of the sac, or of a blocking of the placental circulation, followed by destructive changes within its substance.

Now for the purpose of illustrating it will be quite sufficient to recognize three positions which the placenta may occupy in relation to the gestation sac: (1) It may be situated below at the bottom of the sac. (2) The organ may be uppermost and attached to the upper part of the wall of the sac. (3) The placenta may be laterally incorporated with the sac, and elongated and displaced upwards for many inches into the abdominal cavity.

1. In the first position the placenta can undergo very little

elevation and displacement. The gestation sac may be supported by the expanded tube and a layer of connective tissue, or it may be sustained only by the peritoneal covering of the pelvic organs and lower abdominal region as it arises out of the pelvis. It is remarkable how thin a covering is sometimes sufficient to support the sac at an advanced period of gestation. An interesting case of this kind is this: The fetus was enclosed in a large spherical sac attached to the uterus by a pedicle near the base of the left broad ligament. The tumor was almost wholly covered by peritoneum, and it advanced to the full term without any indication of rupture or hemorrhage. When the placenta is in this position the gestation sac is always liable to suffer serious laceration with the escape of its contents into the peritoneal cavity. If the rupture is gradual the wall of the sac slowly bulges and forms a protrusion which at length gives way, and the fetus, partially enclosed in its amniotic covering, is carried into the abdomen. Some years since Jessop, of Leeds, operated on a case of ectopic pregnancy in which the sac ruptured in this fashion, and the child was found free in the peritoneal cavity. The patient recovered from the operation. In this case it is probable that the fetus escaped alone, and that the placenta was retained at the bottom of the sac.

2. When the placenta is uppermost it forms the upper portion of the gestation sac, and in this position it undergoes both displacement and compression, as the organ is exposed on one surface to direct pressure from the development of the fetus, and on the other surface to the varying tension of the surrounding viscera, and this continuous and increasing pressure generally terminates in destructive changes. The life of the fetus may be endangered by sudden hemorrhage and blood extravasation, or it may succumb to the draining away of the liquor amnii into the peritoneal cavity or the loose cellular structure of the broad ligament, and this loss is soon followed by collapse of the sac, compression of the fetus, and slow destruction of the placental structure. Sometimes the impacted sac extends downwards towards the floor of the pelvis, disturbing the position of the uterus and bladder, and getting into close relation with the bowel, so that in addition to the risks I have mentioned we must

add the dangers arising from septic absorption, suppuration, and septicæmia.

3. When laterally situated in relation to the gestation sac the placenta occupies the most favorable site for maintaining the vitality of the child. In this position it aids in supporting the wall of the sac, and it obtains a free and direct current of blood from the large vessels which supply the pelvic organs. The early movement of the gestation sac towards the abdominal cavity assists in the elongation and stretching of the placental structure, and in promoting through the organ a free circulation; at the same time it reduces the risk of hemorrhage and blood extravasation. During the latter months of pregnancy the expansion and elevation of the placenta must be regarded as greatly contributing to the complete development of the fetus.

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Irvin Abell, M. D.:

My case is one of *complete inversion of the uterus consecutive to parturition*, the patient being a girl fifteen years of age, had endeavored to keep her condition from the knowledge of her parents. When questioned by them after the appearance of abdominal enlargement she assured them that she was not pregnant, and even after labor started denied the possibility of such, and continued on her feet, resulting in the delivery of the fetus whilst the mother was in the upright position. The cord not being of sufficient length to permit of the fetus reaching the floor, was broken by the fall. The parents called in a practitioner of medicine, who attempted delivery of the placenta by traction on the cord, and only desisted from the unsuccessful effort on account of the patient's screams. This was at 10 P. M. The girl was placed in bed and no further effort was made to deliver the placenta, which came away twelve hours later. Following its delivery there was a free flow of blood, which continued some time, and so debilitated the patient that the family physician was called. This was twenty-four hours after delivery; hemorrhage had ceased, and his treatment consisted in the employment of such remedies as would prevent her immediate death from exhaustion. I saw the patient with him the following morning, at which time she was extremely weak, pulse so rapid as to prevent accurate counting, and a hasty examination revealed a large mass in the vagina, around

which I could with difficulty sweep my finger and locate the contracted cervix above. The patient seemed to be on the verge of death from hemorrhage, and the administration of an anæsthetic for the purpose of effecting a reposition of the uterus was not to be thought of. The treatment employed was supportive, as it was thought best to permit the patient to thoroughly rally from the severe hemorrhage before attempting any radical treatment. This she seemed to do very slowly, her pulse during the first week varying from 150 to 160, temperature 99° to 101°; during the second week pulse 130 to 150, temperature 101° to 102 1-2°, and at the middle of the third week the pulse reached 120, temperature remaining about the same. It was decided to remove the uterus at once, as it had become infected, causing high temperature and necessitating frequent douching to remove the foul discharge.

As the patient was still quite anæmic, and in no condition to stand prolonged anæsthesia or prolonged operation, the following method was adopted: Under chloroform anæsthesia the cervix was opened in front and behind, clamps applied to the intervening tissue containing the uterine arteries, and the mass cut away. As you will see from the specimen, this left the ovaries and a portion of the cervix; a strip of gauze was introduced into the peritoneal cavity, the vagina packed, and the patient removed to her bed, the entire time requiring about fourteen minutes. Immediately following this her temperature became normal, pulse became slower and stronger, and she continued to improve, being given tonics and a generous diet, until now, a little over five weeks since her accident, she is enjoying her former good health.

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#### R. Temesvary, M. D.:

I will discuss the connection between the *female breasts and genital organs*. To prove the existence of this connection I will give instances first of genito-mammary and, secondly, of mammary-genital action. In the first group are included: (a) The mammary changes at puberty. That these changes depend on the genital organs is proved by their occurrence in nearly every case of precocious menstruation. (b) Mammary

symptoms at the menstrual period, and occasionally mammary hemorrhage as a form of vicarious menstruation. (c) Mammary changes during gestation and the puerperium. Abnormal as well as normal breast phenomena occur during these periods. Thus new growth in the breast sometimes arises, or, if already present, develops with greater rapidity during pregnancy, and according to Naegle the site of a healed mastitis may become tender and painful at this period. While there is no change in the breast amongst women during and immediately after parturition, amongst animals the skin over the lacteal glands is already tense and reddened when parturition occurs, and the glands secrete colostrum more freely. (d) Mammary changes often accompany disease of the genital organs. In cases of uterine myomata the breasts often secrete colostrum, and hypertrophy of the breast has been cured by amputation of an accompanying hypertrophied cervix, while atrophy of the genital organs causes atrophy of the breasts. (e) Cases of inoperable cancer have been improved or even cured by removal of the ovaries combined with the administration of thyroidin.

The instances given of mammary genital phenomena are: (a) Effects on the genital organs of sucking of the nipple. In some women this causes erection of the clitoris and contraction of the muscles of the pelvic floor. In pregnant women it leads to uterine contraction, and may induce premature labor. After parturition the involution of the uterus is completed in six weeks in the case of nursing women, but takes from seven to eight weeks in non-nursing women. Over-prolonged lactation sometimes causes hyperinvolution of the uterus. Lactation acts favorably on uterine myomata. (b) Irritation of the skin of the breasts sometimes causes uterine hemorrhage in amenorrhœa. Freund employs cupping of the nipple to produce uterine contraction, and warmly recommends the procedure as a preparatory measure before inducing labor. (c) Galactorrhœa is occasionally associated with amenorrhœa, and galactogogue drugs in large doses have usually a galactofugue action, but cause uterine hemorrhage.

I will now discuss the cause of interaction between the breasts and genital organs. The connection may be brought

about through the nerves or through the circulation in the breasts or reversely. But it has been shown experimentally that the secretion of milk may take place in animals in a normal manner after secretion of the spinal cord at the level of the dorsal vertebræ, or when the breast has been entirely freed from the influence of nerves. Similarly cases are on record in which the breast changes of pregnancy, and the puerperium developed normally in women after destruction of part of the spinal cord at the level of the dorsal vertebræ. None of the nerves are therefore unconditionally necessary to the milk secretion.

That the circulation in the breasts is not the essential factor is shown by an experiment of Ribbert, who cut off the mammary gland of a young rabbit and transplanted it in the ear. Five months afterwards, on the rabbit bearing two young ones, this gland secreted milk freely. The only explanation left is that some substance is secreted by the ovaries, which, circulating in the blood under certain circumstances, leads to the secretion of milk. During pregnancy this substance must be utilized in the circulation of the fetus, and only after the birth of the fetus accumulate in the mother's blood to cause the secretion. Experiments showing that healthy ovaries are necessary for lactation bear out this theory, though it is not proved until such a toxin or the blood serum containing it can be produced and its effects watched. Apart from experiment, it is undeniable that the circulation itself has some effect on the secretion of milk. In producing mammary-genital phenomena the sensory nerves of the nipple, probably a reflex center in the cord, and the motor nerves in the uterus, play a part.

The conclusion at which I arrive is that the stimuli going from the genitals to the breasts are produced by some product of the internal secretion of the ovaries, and that the blood circulation, influenced by the nervous system, plays only a secondary part. In the reverse direction the stimulus is chiefly produced by the nervous system, and the blood circulation here plays a secondary part in the form of reflex hyperæmia. This theory cannot be said to be unassailable. It scarcely explains the phenomena of imaginary pregnancy, the

cases where fully developed breasts are found with defective or absent uterus and ovaries, or those conditions apart from pregnancy in which milk is found in the breasts.

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## *Book Reviews.*

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**GYNAECOLOGY.** A text-book for students and a guide for practitioners. By William R. Pryor, M. D., Professor of Gynaecology in the New York Poly-clinic Medical School, etc. One hundred and sixty-three illustrations in the text. New York and London : D. Appleton & Company, 1903.

This volume pretends to be a work on gynecology purely, and tries to avoid the overlapping which so frequently occurs when such works invade the field of general surgery or the practice of medicine. In addition, the absence of chapters on bacteriology and morbid anatomy, and the elimination of obsolete operations make the work very compact. Such subjects only as would be considered by a lecturer on gynecology are treated of, and they receive full and complete attention. Dr. Pryor has been a voluminous and valuable contributor to medical literature, both in other works and in the journals, and as many procedures as have stood the test of experience are incorporated in the present volume.

The notable chapters are those on "After care of patients after celiotomy," "Hysterectomy abdominal, and vaginal," and the treatment of pelvic suppuration. Pryor has contributed much that is original in the above operations, and has always been known as a champion of the vaginal route in certain operations on the pelvic contents. In the general treatment of gynecological cases he is very clear, and gives specific directions which bear the imprint of much practical experience. The book is well bound and printed, and the illustrations all that could be desired.

## *Translations.*

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### PUERPERAL HÆMATOMA OF VULVA.

Lepage (*Comptes Rendus de la Soc. d'Obst de Gyn. et de Péd. de Paris*) opened a discussion on this subject, based on a case of his own. A primipara, aged twenty-one, was delivered spontaneously at term of a child weighing over seven pounds. A large vulvo-perineal thrombus began to develop a few hours later on the left side of the vulval cleft. It ruptured on the fourth day through yielding of the integument, which sloughed. There was some trouble afterwards. During discharge of slough the cavity was plugged and drained, and the patient was cured by the end of the week. The thrombus when at its largest extended behind the anus, which gaped widely. Routier insisted that antiseptic measures allowed of incision, evacuation, and compression of a hematoma of the vulva, as there was no fear of causing the exposed parts to become septic. Champetier de Ribes warned us against opening a hematoma behind the deep perineal fascia, which mounted very high in the abdomen after detaching the peritoneum. When the bleeding was anterior to the fascia, surgical measures were needed about twenty-four or thirty-six hours after labor, when the hematoma ceased to increase in size. Schwartz agreed that early incision was best. Wallach suggested vaginal compression with a tampon to check the increase of the hematoma, but Lepage observed that it developed very insidiously in his case. He had been educated in the dread of active interference with a vulval hematoma, but agreed with Routier that there was no danger in opening it with antiseptic precautions. In this case there were no varices of the labia.

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### METASTASIS OF MELANOTIC SARCOMA OF OVARY.

Amann (*Zentralbl. f. Gynäk.*) follows up a case of melanotic sarcoma of the ovary; he had exhibited the tumor shortly after its removal, and the patient survived the ovariectomy for about a year and a half, ultimately dying of general diffusion of the new growth. Metastases were detected in the flat bones of the cranium, in the petrous portion of the right temporal bone, the sphenoid, the inferior maxilla, the left clavicle and scapula,

the manubrium of the sternum, and five ribs, all on the right side. In the liver were masses as big as potatoes; deposits were also found in the gall bladder, the iliac, lumbar, and mediastinal lymphatic glands, and, lastly, in the left optic, third, fourth, and sixth nerves. The metastatic deposits clearly proceeded along the blood vessels and so reached the marrow of the bones. In a discussion on this case it was suggested that the primary seat of the new growth might not have been in the ovary; but the patient survived the ovariotomy for eighteen months, whilst had metastases existed when the operation was performed, the fatal result would have occurred much earlier. Gossmann related a case of enucleation of a small melanotic sarcoma of the iris; within a year and a half general metastasis occurred.

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#### METRITIS DISSECANS.

Pilkanoff (Rousk. Vratch) reports a case of circumscribed gangrene of the uterus where the slough was retained for over a month. Eclampsia occurred during labor, the forceps were applied and the perineum and sphincter ani were lacerated. High temperature occurred during the puerperium and it oscillated between  $107^{\circ}$  and  $103^{\circ}$  until a large piece of slough was discharged on the thirty-first day. Then all feverish symptoms disappeared and the patient recovered. The slough was remarkable for its size. It included the whole thickness of the uterine wall, the serous coat being covered with false membrane. Anatomically it consisted of a piece out of the fundus over  $3\frac{1}{4}$  inches broad with part of the anterior wall nearly 5 inches long, and a corresponding strip of the posterior over 5 inches in length. Thus the remarkable size of the fragment, especially in its vertical measurement, shows that, as Garrigues has already detected in other cases of metritis dissecans or gangrene of the uterus, involution was arrested. The tissues of the slough contained the elements usually detected in perinecrotic inflammatory reaction. The streptococcus, but no other microbe, was found in vascular thrombi in the slough.

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#### VAGINAL OPERATION FOR EXTRA-UTERINE PREGNANCY.

Strassmann (Zentralbl. f. Gyn.) records 20 operations in his own practice where extra-uterine pregnancy was treated by vaginal incision. The largest fetus measured  $6\frac{1}{4}$  inches. The tube was removed in 18 cases, resected in 1, and simply

emptied in 1. In 10 cases the incision was anterior. In 4 cases disease of the opposite appendages was detected. Strassmann notes that the indication for operation in these cases was recent hemorrhage. As compared with patients treated expectantly, those in Strassmann's series had the advantage of speedier convalescence and more complete recovery whilst pregnancy, presumably normal, occurred in one-quarter of his patients. As contrasted with subjects where the affected parts are removed through an abdominal incision, his cases suffered from no indication of shock, whilst they did not go about with a ventral cicatrix liable to hernia. Strassmann admits that abdominal section is advisable when diagnosis is uncertain, and when a tumor or other complication is present.

#### RUPTURE OF PYOSALPINX DURING PALPATION.

Legueu (*Comptes Rendus de la Soc. d'Obstét., de Gyn., et de Pédi. de Paris*) reports two cases of pyosalpinx where rupture occurred when he was making a pelvic exploration. In both these there was the usual history of local inflammation.

In the first case the uterus was pushed considerably forwards, and as Legueu was attempting to define the fundus, he noticed that the pelvic swelling yielded with a sensation of cracking. The patient felt pain. An operation was performed an hour and a half later, the pelvis was not raised lest pus should trickle down over superior parts of the peritoneal cavity. The left tube was found dilated and ruptured; about 200 grams of pus had escaped from it into the peritoneal cavity. It was removed with its ovary and the opposite appendages, which were suppurating. Mikulicz drainage was adopted in Douglas's pouch, replaced by a tube on the third day. The patient recovered.

In the second case a characteristic tender cystic tumor occupied the left fornix and Douglas's pouch; there was a history of gonorrhea. During bimanual palpation Legueu distinctly felt the tumor collapsing, as did the patient, who noticed a little pain at the time. But ten minutes later intense pain occurred, with bilious vomiting, very rapid pulse, and faintness. Within one hour after the operation the abdomen was opened without any elevation of the pelvis. A quantity of brown pus was found free in the peritoneal cavity mixed with small clots. This was cleared out, compresses applied to the intestine, and the pelvis elevated. The ruptured pyosalpinx developed from the left tube was very friable, detachment from adhesions proved difficult; it was removed with its fellow, a large pyosalpinx of the right tube which adhered strongly to intestine.

Much gauze drainage was employed and operation proved lengthy. The patient did well, the gauze was removed on the fourth day and replaced by a tube, which was taken out twenty-four hours later. The patient soon recovered.

There can be no doubt that immediate operation is demanded when the pelvic swelling is ruptured during palpation. Serous collections of fluid are sometimes burst under the same circumstances. Legueu once took an accident of this kind for a pyosalpinx and operated, but found that the fluid had developed in the peritoneum as the result of perimetritis and salpingitis. The fluid consisted of pure serum. Legueu also relates a case where he opened an abscess connected with the vermiform appendix. A few weeks later another abscess developed in its site, in palpating it he felt it give way. In the course of the succeeding night the pus was passed at stool; the abscess cavity, which of course communicated with the intestine, was afterwards incised with the best results.

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#### TUBO-OVARIAN VARICOCELE.

Since Richet and Devalz first drew attention to tubo-ovarian varicocele and its supposed frequent association with retro-uterine hematocele, little attention has been paid by gynaecologists to this affection. Michel and Bichat (Arch. Gén. de Méd.) distinguish two main varieties: (1) A varicocele of the broad ligament accompanying a pelvic tumor or a prolapse, and being of secondary importance compared to the main affection; (2) a tubo-ovarian varicocele, constituting the principal and essential lesion, being always secondary to an antecedent pelvic inflammation. They quote a case of the latter class in a patient, aged 24, who had suffered from pelvic pain, irregular menstruation, and leucorrhœa for five years. These symptoms commenced two months after an apparently normal puerperium, and followed a heavy fall. Vaginal examination showed a soft enlargement of the cervix with an old left-sided laceration, and bimanually a boggy thickening of the upper part of the left broad ligament, tender on pressure, was felt. The diagnosis of chronic cervicitis with salpingitis was made.

Laparotomy was performed, when an enormous varicocele was found extending from the uterus to the parietal peritoneum on the left side. The ovary was small, atrophied, hard, and cystic; the tube was slightly thickened. Microscopic examination of the ovary showed an enormous dilatation of the lymphatic vessels at the hilum, and considerable fibrous thickening of the external coat of the veins.

Various causes for tubo-ovarian varicocele have been given—want of support of the veins, congenital weakness in their walls, absence of valve (Dudley). Of mechanical causes, constipation, repeated pregnancies (Budin), pelvic tumors, uterine displacements, affections of heart, lungs, and liver, by inducing a venous stasis, may cause an alteration in the vascular walls.

The authors suggest a totally different etiology for the case quoted—namely, an attenuated infection during the puerperium of the lymphatics of the tubo-ovarian pedicle, with extension to the neighboring vessels, producing a periphlebitis with subsequent dilatation.

In support of this theory they adduce the argument that there was a cervical laceration on the same side as the varicocele, with great dilatation of the lymphatic vessels in the broad ligament. Further, the ovary on that side was sclerosed and cystic, which they consider evidence of an attenuated infection.

De Sinéty has observed similar conditions in one other case, and the authors urge the careful examination of the lymphatic vessels in future cases and tubo-ovarian varicocele associated with a sclerosed and cystic ovary.

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#### PUERPERAL GOITRE.

Malade (Berl. klin. Woch.), notices the peculiar connection between the sexual organs and the structures found in the neck and instances as a common example the change of voice at the period of sexual ripeness. Laryngeal growths frequently appear during pregnancy, and changes in the thyroid gland are known to be affected by pregnancy. French authors have described a form of bronchocele which they call "goitre puerperal." This goitre develops during the act of parturition very rapidly, and sometimes attains a great size. Malade has come across three cases; the first affected a woman of 48, who had not had a goitre before the birth of her first child, some fifteen years previously, but had noticed soon after that a small swelling had appeared. At the second and third labors the goitre again appeared, and disappeared later. At the fourth there was a sudden considerable growth, and since that time the goitre had not gone away again. At the fifth, sixth, and seventh no changes took place in the thyroid, but at the eighth birth, that is, five years ago, the goitre became markedly larger. The second case was that of a woman of 39 years. Her first child was born when she was 25, and the midwife was much struck at the appearance of a goitre, which, however, disap-

peared later on. At the following eight labors the goitre reappeared, each time becoming larger than before. During the last few births it had not disappeared between the pregnancies. The third case is somewhat different. A woman of about 29 years of age had given birth to her first child two years previously. She reached the end of her second pregnancy after having had profuse hemorrhages three or four times during the last two months. She applied for treatment on account of renewed bleeding. Placenta prævia was diagnosed, and she was carefully removed into hospital. Next day the bleeding again appeared, and the os was therefore dilated at once, and after the placenta had been perforated (it was attached centrally), the fetus was turned and a foot brought down. The patient was under chloroform anæsthesia, and lost very little blood. She was put back into her bed, and twenty minutes after the version had been completed she died suddenly. Although the cause of death could not be settled for certain at the necropsy, Grawitz attributes it to cerebral anæmia, due to a comparatively large bronchocele. Very little chloroform was used, and it is very unlikely that death was due to it. Malade discusses the possible ways in which the sudden increase of size in the thyroid gland led to her death.

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#### RECURRENT TUBAL GESTATION.

Reifferscheid (*Zentralbl. f. Gynäk.*), notes how many authentic cases of repeated tubal gestation have been reported since 1898, when Zangemeister collected 34 examples. By 1901 Pestalozza was able to collect 111 cases. Reifferscheid notes 2 recurrent tubal gestations in 43 operations for tubal pregnancy in the Gynecological Department at Bonn. The first patient was 25, and had aborted two years previously; pelvic inflammation followed. Symptoms of a ruptured right tube set in a few weeks before admission to hospital. No recurrence of symptoms of hemorrhage was noted, but severe hypogastric pains set in. On June 24, 1899, a tumor developed from the right tube was removed; it contained a fetus 1 1-2 inches long. There were firm old adhesions to omentum, and the left tube and ovary were set free from inflammatory bands in Douglas's pouch. Just two years later symptoms of rupture of a left tubal sac set in. On June 20, 1901, the sac was opened through the vagina; but three days later it had become as large as before, so abdominal section was performed. The sac was strongly adherent to intestine; it represented tubal abortion at the second month. The membranes were complete and torn at one point, but the fetus could not be found.

The second patient was 32, and had been four times pregnant; the last confinement was in October, 1897. The catamenia were very free till the first week of October, 1902, when the show was scanty; a fortnight later sharp pains in the right side of the pelvis set in, and a tender mass was detected to the right of the uterus. On October 17, 1902, the right tube was removed. It was of the size of a hen's egg, and freely movable, as there were no adhesions. It contained a fetus of the sixth week of gestation. On March 13, 1903, the same patient was admitted into hospital almost moribund from internal hemorrhage. The last period had occurred at the end of December, 1902, and the symptoms of rupture of a fetal sac set in with a fainting fit a week before admission. There was also intestinal obstruction. Reifferscheid operated at once. Great masses of coagulum were found in the peritoneal cavity. A large rent was found in the left tube, which was removed; it was the seat of an ectopic pregnancy. The patient was revived with great difficulty; a subcutaneous injection of saline fluid with other measures brought her to, and recovery was rapid.

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#### SIMULTANEOUS NORMAL AND INTERSTITIAL PREGNANCY.

Mainzer (Zentralbl. f. Gynäk.), attended a case of abortion and cleared the uterine cavity of an ovum of about the fourth week. Thirty-one days later symptoms of internal hemorrhage set in and Mainzer operated. There was a hemispherical dilatation of the left cornu, the rent in its walls was so small as to be only recognized with difficulty with the naked eye, yet the peritoneal cavity was full of blood. Both tubes and ovaries were normal; the left ovary contained a corpus luteum. The left cornu was excised, and the wound thus made in the uterus was closed by suture. The history and the anatomical conditions discovered at the operation seemed to indicate that there was simultaneous normal and interstitial pregnancy.

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#### NO ESSENTIAL FEVER OF PREGNANCY.

Pinard (Ann. de Gynéc. et d'Obstet.) absolutely denies the existence of the fever of pregnancy described by Burns, of Glasgow, in 1809. Tarnier and Budin admitted that fevers in pregnant women offered no characteristic symptoms, they must therefore be most probably multiple. Vinay in 1894 showed how modern experience had proved that pregnancy plays an entirely secondary share in the production of the fevers with which it is sometimes associated. Pinard insists that there is

distinct danger in maintaining a belief in an essential fever of pregnancy. It may cause the medical attendant to overlook many conditions little known in the days of Burns, such as appendicitis, torsion of ovarian tumors, and dilated tubes, cholecystitis and other diseases, which often complicate pregnancy, and involve rises of temperature. When such a rise occurs, the cause, which is never the pregnancy as such, should be sought for. In the course of 1902 Pinard observed many "temperatures" in pregnant women under his care in the Clinique Baudelocque, many of the patients were nearing term, but some were in very early pregnancy. One woman had distinct fever in the fourth month, and the cause was not clear, apparently there was no local tenderness. An exploratory incision was made, and an ovary full of pus was detected and removed. "That's what her 'fever of pregnancy' meant," concludes Pinard.

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#### THE TREATMENT OF SKULL DEPRESSION IN THE NEWBORN.

Vicarelli (Giorn. dell R. Acc. di Med. Torino) discusses the above subject and reports 7 cases treated by him, also certain experiments made on the dead fetus and accurate models of various types of contracted pelvis. The prognosis depends largely on the extent and degree of the injury and on the resisting power of the child, but if untreated it should be somewhat reserved spoon-shaped depressions, because they are usually associated with fracture, and depressions in the frontal bone are the most unfavorable. Those depressions which take the form of grooves are, on the other hand, more favorable. As showing the gravity of spoon-shaped depressions, out of Schroeder's 65 cases 32 died as a more or less direct result of the lesion. The author thinks that attempts should be made to remedy these deformities as early as possible, and his method is to shave and disinfect the scalp, excise the periosteum, apply the point of a kind of trephine (*tirafondi*) to the center of the depression, and, having raised the depressed parts, suture and bandage. It is not necessary to perforate the inner table of the skull; no anæsthetic is necessary. Photographs of the author's cases are given before and after operation. most of the depressions occurred on the parietal bones. Where the depression was in the center of the parietal bone no trace of fracture was to be seen, but if it was situated on the periphery, and affected the temporo-frontal region, fracture was almost always present, with effusion of blood from rupture of the middle meningeal artery. In experimenting it was found that a force of from

20 to 54 kg. was required to push or pull an average fetal head through an average contracted pelvis.

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### EARLY MENSTRUATION.

C. Wischmann (Norsk. Mag. f. Laeg.) relates the case of a child aged 18 months, in which twelve distinct menstrual periods occurred during sixteen months. Each lasted from five to ten days. The child was neither rickety or hydrocephalic. The mammae were voluminous and glandular, the mons veneris was well marked and covered with long light colored hair. Hair was also present over the labia majora, on the mammary areolæ, and in the axillæ. The mother's menstrual history was normal, and there were only two other children. All cases of early menstruation may be placed in two main groups: (1) When the prognosis is doubtful from the presence of rickets, hydrocephalus, tubercle, or ovarian tumors; (2) when the sexual instinct is fully manifested. In the latter the parents should always be informed of the possibility of coitus and gravity.

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### STENOSIS OF CERVIX FROM CHANCRE: DYSTOCIA.

Wayer (Wien. med. Presse) observed a case of lingering labor in a woman aged 26; the pains had continued for four days. The margin of the os externum was very indurated: the cervix presented a pearly appearance when the speculum was introduced. Incisions were necessary; then the labor was concluded by aid of the forceps. The chancre had developed three and a half years before Wayer attended the case; the family doctor detected an ulcer and prescribed general remedies. Menstruation became very painful. The cicatricial tissue developed when a chancre of the cervix heals is very tough, and has been known before the date of Wayer's case to cause dystocia. Fortunately it is very rare. Out of all carefully-observed cases of hard sore in the female, not 65 per cent., according to Neumann, are situated on the cervix.

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### CHOLECYSTITIS: PREGNANCY AND THE PUERPERIUM.

Potocki, Pinard, Dolériss, Le Gendre, and Barillon (Ann. de Gynéc. et d'Obstét.) published a series of cases under the heading Cholécystite et Puerpeualité. They teach Pinard's doctrine.

that there is no essential fever of pregnancy (see Epitome, April 25th, par. 267), and that high temperature after delivery may mean complications other than puerperal infection, such as twisted or inflamed ovarian cysts, appendicitis, and intestinal obstruction. Cholecystitis is not very rare, and speedy operative interference may save life. Potocki performed cholecystotomy eleven hours after delivery; purulent cholangitis had occurred; a large number of small calculi came away. Nearly one year later the gall bladder was removed. Pinard reports a case of cholecystitis in the puerperium. Hartmann successfully operated on the eleventh day after delivery on a patient under Pinard. Much pus came away from the gall bladder, which was stitched to the parietal wound. On the tenth day a calculus as big as a nut escaped from the wound. Doléris attended a case of typhoid fever in the eighth month of pregnancy. Premature labor occurred; the child was alive. A tender spot was felt in the region of the gall bladder. On the seventh day Malartic opened the gall bladder and let out about 2 oz. of purulent bile. The fever became very severe, but ultimately the patient recovered. The child was in good health when the mother was convalescent. Le Gendre reports a remarkable case where a woman, aged thirty-four, had been subject to uncontrollable vomiting for two months with amenorrhoea, so that pregnancy was suspected. The uterus, however, was not gravid. The patient was discharged from hospital, but returned a month later vomiting incessantly. There was no local or clinical evidence of mischief in the gall bladder and ducts. Symptoms of cerebro-spinal meningitis set in, and the patient died six days after admission. At the necropsy marked hyperæmia of the cranial and spinal meninges and of the cerebral cortex was detected. There were no purulent foci. The gall bladder contained 4 oz. of pus, a calculus as big as a walnut lying against the orifice of the cystic duct, and a few smaller faceted stones. The gall bladder was fixed to adjacent intestine by recent soft adhesions. Barillon operated on a patient six months pregnant for cholecystitis with jaundice, removing a calculus from the gall bladder; delivery occurred at term. It must be remembered that cholecystotomy for gall stones has been performed simultaneously with removal of a gravid tubal sac.

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#### CHOLECYSTOTOMY IN PREGNANCY: DELIVERY AT TERM.

Barillon (*Comptes Rendus de la Soc. d'Obstét. de Gyn. et de Paediat.*) operated during the sixth month on a married lady,

aged 33, pregnant for a second time after a very long interval of years. She had lived fifteen years in Algeria, and had enjoyed good health, excepting a few attacks of gastric pain, without jaundice or rise of temperature. The period ceased in March, 1900. For three months all went well, but in the third week in July symptoms of biliary obstruction set in. The attacks of pain were violent, with rigors and high temperature; jaundice became marked, and by September the gall bladder could be felt much distended. Yet the pregnancy continued uninterrupted, and the fetal heart sounds were quite clear on September 17th, when cholecystotomy was performed and the gall bladder sewn to the parietes. It was not sutured and returned, although the ducts were all clear, as Barillon thought that drainage was a safeguard against several possible accidents which would prejudice the pregnancy. The gall bladder before incision measured over 6 in. in length; it was full of thick green bile, and held an oval calculus 1-5 in. in long diameter, and with an irregular mulberry-like surface. Directly after the operation the motions became colored, the pains ceasing. The urine slowly returned to its normal color. On December 5th the patient was safely delivered of a female child weighed over 7 lbs.; the placenta weighed  $1\frac{1}{4}$  lbs. and was normal. The operation scar and the biliary fistula were unaffected by the labor pains. There was a rise of temperature to  $100.5^{\circ}$  on the sixth day, associated with constipation. By the fourteenth day the patient was able to get up; she could not, however, suckle her child. After convalescence there was no trouble save with the biliary fistula, which was to be closed artificially if it failed to do so spontaneously.

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#### SUDDEN DEATH AFTER DELIVERY: OBLITERATED PLEURAL CAVITY.

Chéron and Jeannin and Perret (*L'Obstétrique*) report two cases of death within a few hours after delivery, in each of which there was complete obliteration of the right pleural cavity. The patient in Chéron and Jeannin's case said that she was subject to cough. During delivery she suffered from acute dyspnœa, it increased afterwards, with rise of temperature. There was no flooding, venesection was performed, but the patient died within two hours. All the viscera were found normal except the lungs. The left was congested, with much tubercle in the apex, and some pleural adhesions: there were 8 ozs. of fluid in the pleural cavity; the right pleural cavity was completely obliterated, the lung could not be detached at

any point without laceration; its surface was covered with tubercle, in part calcified. There was no embolism, and the lesions described could not of themselves have caused death, but the strain of labor proved too much, the sounder lung being much disabled by the presence of fluid in the pleura.

Perret's case, reported in his summary of the work in Tarnier's clinic in 1902, was very similar. The patient, aged twenty-nine, was at the end of her sixth pregnancy; the fetal heart sounds had ceased. The fetus was expelled spontaneously, and the placenta and membranes followed one hour and ten minutes later. No dyspnoea was noted during delivery and the patient seemed perfectly well till three hours later, when she was seized with acute dyspnoea, and died suddenly. The right lung was tuberculous and the pleural cavity completely obliterated; the left lung was similarly affected, and there were 14 oz. of fluid in the pleural cavity; there was no embolism, and the other organs were healthy. The chief difference between the second case and the first (where the age of the patient and the number of her pregnancies was not given, whilst the pulmonary lesions were suspiciously similar) lay in the absence of dyspnoea in the second patient until just before death, whilst in the first the breathing was already harassed during labor, and she sweated freely from the first. Schwab and Talamon, in a discussion on the first case, reported two instances of sudden death from dyspnoea, where only slight pleural effusion existed, neither associated with pregnancy.

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#### WOLFFIAN RELICS IN THE OVARY.

Wihoser (Rev. de Gynéc. et de Chir. Abd.) has summed up, in a thesis read before the University of Zurich, some valuable researches bearing on the histology of the human ovary which tend to support the theory maintained by Coblenz, Doran, and Bland-Sutton, that papillomatous cysts of the ovary and broad ligament, and also parovarian cysts, arise from the tubes of the Wolffian body. Kossmann is inclined to ascribe these tumors to the Müllerian duct, a theory most probable in relation to free papilloma of the broad ligament. Wihoser examined ovaries from a seven-months fetus, an infant born at term, a child aged two, and a girl aged fourteen. He detected relics of the Wolffian body in the tissue of the hilum of the ovary or epoophoron, in the medullary portion of the oöphoron, and lastly, as the well-known paröphoron or parovarium between the layers of the

broad ligament. The relics in the substance of the oophoron, or ovary proper, seem perfectly well-defined tubules or canaliculi derived from the glomeruli of the Wolffian body; they are sometimes spread over a wide area of the ovarian stroma; and Wihoser declares that they may proliferate.

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#### FATAL PERFORATING APPENDICITIS IN THE Puerperium.

Porak and Daniel (*Bull. de la Soc. à'Obstét. de Gynéc. et de Paed. de Paris*) observed at the Maternité, Paris, a primipara, aged 28, admitted two days after spontaneous delivery in the eighth month. About a week before labor slight colicky pains were felt in the right iliac fossa, there was no previous history of any illness. On the night after delivery several rigors occurred, with rise of temperature. All the symptoms of acute peritonitis set in and puerperal infection was diagnosed. As the uterus was almost fixed, and there was deposit on the left as well as on its right side, the curette was used, lactoserum was also injected. There was no vomiting; death occurred on the fifth day. The peritoneal cavity contained over two pints of fetid pus. The appendix was entirely retro-cæcal in position, and ran vertically upwards. The tip was sound, but the appendix was completely separated from the cæcum at its insertion, yet held in place by adhesions; close to the line of separation was an oval perforation one-half inch long, and just outside it a calculus as big as a haricot bean, and weighing twelve grains. Suppurative inflammation had destroyed the walls of the appendix close to the cæcum. Pinard, discussing this case, remarked that it supported Potocki's observations, which showed that a certain proportion of febrile phenomena after labor were due to other causes than puerperal infection. He noted how a rigor followed very closely on delivery—not the rule in puerperal septicæmia—and believed that the labor was brought about by the appendicitis; it was significant that the child was living and well. Pinard had observed three deaths of children born healthy within two months in cases of puerperal septicæmia.

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#### FATAL PUEPERAL MAMMARY ABSCESS.

Perret (*L'Obstétrique*), in his statistics and observations in Tarnier's clinic for 1902, reports a case in which a primipara, aged nineteen, was delivered spontaneously on July 31st: the

placenta was entire and healthy. All went well until the evening of August 6th, when the temperature rose to 100°, and lymphangitis and galactoöphoritis of the left breast was diagnosed. From August 8th to 12th the breast was pressed and kept covered with ice, until the abscess was detected; the temperature rose as high as 105°. On the 13th the abscess was opened, but the temperature did not fall; antipyrin was given, and the patient was cupped as she had a slight cough. On the 20th, Marmorek's serum was administered but the patient died on August 24th, the twenty-fifth day after delivery and the eighteenth after the mammary complication was first detected. The breast was infiltrated with pus, which issued from the nipple on pressing the ducts. Numerous subpleural ecchymoses were detected in the right lung. The peritoneum and its cavity were absolutely normal; it was not even markedly vascular. The uterus was small, its muscular tissue healthy, but the endometrium was fungating, and on scraping it with the bistoury a few yellow spots like purulent foci were discovered. No bacteriological appearances are noted.

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#### NEUROSES AND FIBROMA OF ABDOMINAL WALL.

Schauta (*Zentralbl. f. Gynak.*) dwells on some remarkable symptoms in a patient, aged 22, who had once borne a child and once aborted. The miscarriage occurred three years before she came under observation, then attacks of pain in the left groin and great nervousness set in. Spasm of the parietal muscles rendered palpation difficult, but Schauta noted for some time that the center of the hyperæsthetic area lay in a small swelling which he at first took for an enlarged inguinal gland. After a few months the sensitiveness of the swelling, which slowly increased in size, became intense, general clonic spasms occurred when the patient tried to move, and mental delusions were observed. The swelling was therefore removed; it was a "desmoid" tumor, or true fibroma of the fascia of the internal oblique, as big as a hen's egg. It was made up of loose tissue, wavy, tendinous fibers, through which in certain places small fine nerve fibers ran. The presence of nerves must assuredly account for the hyperæsthesia, which was so great and prolonged as to affect the patient's mind. After the operation the local sensitiveness and the delusions both passed away.

## REMOVAL OF RUPTURED TUBE AND CHOLECY-STOMY OF GALL STONE.

Strassmann (*Zentralbl. f. Gynäk.*) operated upon a woman, aged forty, with symptoms of ruptured tubal gestation sac and a clear history of abdominal pregnancy. She had not been pregnant for ten years, and on the last occasion aborted and suffered afterwards from inflammation of the left appendages, which were removed by Martin. Her recent general health had been bad and she had felt pains in the epigastrium. An incision was made by Strassmann through the old cicatrix. The ovum half protruded into the peritoneal cavity through a rent in the right tube. The operator declared, when reporting this case before a society, that the fetus, only 2 cm. (a little over 3-4 in.) in length, could be seen to move! The tube and ovum were removed and the abdominal wound extended upwards to the right. The gall bladder was stitched to the parietes and opened; a gall stone as big as a plum was extracted from its anterior, which also contained clear bile. The ducts being found free the gall bladder was sown up in layers. The upper end of the wound was tamponed, the gauze being removed on the tenth day. The patient was quite well one month after the operation.

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## HÆMATOMETRA; OPERATION: SUBSEQUENT PREGNANCY.

Budin (*L'Obstétrique*) reports the case of a woman who menstruated at fourteen, but the period, never regular, ceased at fifteen. A swelling developed, which was correctly diagnosed as a hæmatometra. When the patient was sixteen Quenu made an incision, which proved to be situated 4-5 in. from the closed os externum. Dark fluid escaped, the catamenia returned, and the patient married. Pregnancy occurred, and Budin asked the members of the Société d'Obstétrique de Paris whether the dangers of labor at term should be anticipated. It was the general opinion that normal labor should be awaited. One month later Budin announced at the same society that spontaneous delivery had occurred. The vertex presented; the os externum dilated. It was remarkable how the cicatrix of the surgical incision shifted its position. At the end of about twenty-four hours a fetus, weighing over  $6\frac{1}{4}$  lbs., was delivered, and the puerperium was normal. Budin suspected that an exaggerated anteflexion was probably the original cause of the retention of menstrual blood.

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## HEMORRHAGE DURING AND AFTER LABOR.

BY BENJ. HARVEY OGDEN, A. M., M. D.

Hemorrhage complicating labor is one of the most serious and perhaps most common accidents. Unless quickly controlled by the prompt and intelligent assistance of the obstetrician it is rapidly fatal. Every physician who is called upon to pilot a woman through childbirth, however small his experience, will sooner or later have to cope with it. Fortunate, and thankful too, will he be if his knowledge of the causes, and consequently the best methods of control, is so clear cut and definite that he may proceed with that precision, promptness, and proper order of action which is characteristic of the master in any trying situation. Knowledge which is not available or is jumbled, like a crazy quilt, is useless in an emergency. Recently it was my duty to mark the papers of some thirty applicants for the position of interne in our City Hospital, in which the answers to the question, "What are the best methods of treating post-partum hemorrhage," were so woefully inadequate and lacking in order that I determined at once, at the risk of commonplace repetition,

to write a paper upon this subject. Let me say first that I believe the control of hemorrhage, whether during or after labor, is mainly mechanical and therefore surgical. I have made my subject include hemorrhage during labor more for purposes of classification, as I wish to consider mainly the treatment of post-partum hemorrhage.

Hemorrhage before the expulsion of the child in the vast majority of cases results from placenta prævia; this varies greatly in frequency. My own experience shows four cases in 1050, one of these being twins; only one of the four had the placenta centrally implanted, the other three were marginal. The hemorrhage in such cases is considered unavoidable and hence the term unavoidable hemorrhage is used.

Another form of hemorrhage before the birth called accidental is due to the premature separation of some portion of a normally situated placenta. The causes of this are often obscure. I have seen it occur when the patient was asleep; but my cases have usually given a history of some unusual exercise such as hanging pictures, an effort to prevent a fall. The symptoms are those of pain more or less severe, sometimes absent, but always the faintness, quickened pulse, disturbed respiration, and blanched color so characteristic of internal hemorrhage. The treatment of these two conditions, *i. e.*, placenta prævia and accidental separation of the placenta, is practically the same. Dilate the cervix by some means which at the same time stops or diminishes hemorrhage, and deliver as rapidly as possible. The detail of this I will not take up, as I wish to pass on to the more careful consideration of post-partum hemorrhage properly so called.

This is a profuse hemorrhage occurring during the third stage of labor, or within twenty-four hours following. It is called a secondary post-partum hemorrhage—or more properly puerperal hemorrhage, when occurring later than twenty-four hours. Primary post-partum hemorrhage is by far the most common and is mainly due to relaxation of the uterine muscle. Anything which interferes with uterine contraction produces post-partum hemorrhage. It is very important to recognize such causes and overcome them, if possible. Such

causes are, first, local exhaustion of the uterine muscle such as comes from a long labor, or a precipitate one in which the intervals of muscle rest are insufficient for restoration of muscle tonicity. General malnutrition and serious constitutional diseases increase this danger. Disturbed innervation resulting from mental emotions may produce a temporary paralysis. And lastly, though in my experience less commonly, some mechanical obstacle to contraction such as a distended bladder, a fibroid, retained blood-clots, or fragments of the placenta.

The symptoms and recognition of post-partum hemorrhage are obvious to him who looks. It is inexcusable for a hemorrhage to have progressed without the knowledge of the physician until the blanched face, the full pulse and failing vision, the gaping and air hunger force his attention. The sudden gush, or the smaller but continuous stream, or the filling of the uterus should have already been seen by him. A concealed hemorrhage usually means inattention.

I will consider preventive treatment first, because of its great importance and logical order; this means a thorough knowledge of the causes of such hemorrhage. Do not hasten the detachment of the placenta unless hemorrhage makes it necessary. Give the uterine muscle a chance to regain its tone by waiting 10 to 30 minutes, some say even longer; also give the patient a chance to practically recover from chloroform, if it has been used. If labor has been long or the patient nervously exhausted, a hypodermatic injection of strychnine 1-30 gr. is to my mind of far grater value than ergot, or any other medicine I have tried. If the labor has been rapid and precipitate, bell. 2x is very useful. Do not allow the bladder to become filled during the later part of the second stage of labor. Do not permit any exciting scenes or influences. Keep cool and show yourself the master. Always know beforehand where the syringe is, the hot water, the sterile gauze, or whatever you may need. Be prepared. Should hemorrhage occur in spite of these precautions its immediate control is imperative, and is best accomplished by mechanical process. I do not believe the immedi-

ate control of post-partum hemorrhage is effected by drugs whether given in dram doses or in potency, hypodermatically or otherwise. This is a mechanical process and demands mechanical treatment, mostly of a surgical nature. I am speaking of the immediate control. Do not misunderstand me regarding drugs—they are useful in preventing inertia and later in maintaining contraction, but I cannot emphasize too strongly my belief that we must rely upon the mechanical means for immediate control. In the examination papers to which I referred nearly everyone said give ergot, or the indicated remedy, such as bell., china, carbo veg., ipecac, and then went on in a desultory, half-hearted way to tell of some other things which might be done if those did not control. Gentlemen, if you have a severe hemorrhage, your patient will bleed to death before your remedies will have time to act.

What are the measures I would advise? Nothing especially new, but let us have our forces available and marshal them in proper order and with the precision of one who knows, as becomes a good general.

First, as soon as the child is born and freed from the cord, keep one hand on the uterus through the abdomen, and your eyes on the discharges. As the placenta is being detached make compression upon the uterus, pushing it downward and forward. If such compression and kneading does not cause contraction insert two fingers into the vagina back of the cervix and press it forward, while the hand upon the abdomen flexes the body of the uterus forward, thus bending the uterus upon itself. This is very effective and rarely fails to check hemorrhage. If not effective, instruct someone to prepare the hot sterile water at a temperature of 120°, and while this is being gotten ready release the fingers from behind the cervix and push them into the uterus, and if clots or membrane are found the whole hand may be inserted to feel for and remove them, at the same time rotating the hand to stimulate uterine contraction. After the withdrawal of the hand I believe it is wise to inject the hot sterile water which is then ready, to still further stimulate contraction and retraction. I have seen but one case in which these meas-

ures were not effective, and that was a case of hemorrhage following a very difficult delivery of twins complicated with placenta prævia, where I found it necessary to resort to my last method, viz., packing the uterus with sterilized gauze. Just a word regarding the technique of this may be indulged. Bring the patient's hips to the edge of the bed, placed in the lithotomy position, grasp the cervix on either side and draw it down to the vulva in plain sight, then with a dressing forceps or probe it is very easy to pack the uterus from the fundus to the cervix. Uterine packing, if done at all, must be done well. These then are the methods in order:

- 1st. Compression, external and internal.
- 2d. Hot-water douche.
- 3d. Packing.

Many other things are advised, but these three should stand out clear and in order to every obstetrician. Ice may be used instead of hot water—not so good, but might be more quickly available. Vinegar on a sponge, squeezed out in the uterine cavity, to my mind not equal to hot water and more dangerous. Monsel's solution may be effective, but is certainly dangerous. A faradic battery is very effective, a bipolar electrode easily made sterile is inserted into the uterus; such an instrument should always be on hand in lying-in hospitals; some advise a physician to carry one with him to obstetric cases, but it seems rather impracticable.

Arndt has recommended a method which is worth considering, based upon the observation that traction on the uterus renders it anæmic by diminishing the flow of blood through the supplying arteries. Also we know that such traction through irritation stimulates uterine contraction. I have never tried it, but Arndt mentions it as certain and unattended by the danger of sepsis. His method consists in grasping the flaccid cervix with one or two bullet forceps and forcibly drawing the uterus downward as far as possible.

Occasionally hemorrhage persists in spite of a well-contracted uterus; such bleeding is always due to laceration of the cervix or vagina, and is usually easily controlled by a few stitches or temporarily by a gauze tampon. It was the at-

tempt to control a bleeding cervix which led me to try the immediate repair of the cervix, which I have often recommended. Although it has been condemned, there is a growing belief in the wisdom of such an operation, especially in hospital practice. During the manipulation and treatment necessary for the immediate control of the flow some remedy may be strongly suggested by such symptoms as the profuse bright flow and nausea of ipecac, or the spasmodic gushing hot flow of bell., or the slow bleeding of dark blood like venous oozing of hamamelis, or the fainting and ringing in the ears with the desire to be fanned so characteristic of china, or these symptoms with those of collapse added are said to indicate carbo veg., the dark and stringy flow of crocus, which is worse from any exertion. Sabina and pulsatilla are said to be especially useful for hemorrhage dependent upon retained fragments, but the better method would seem to be to remove the fragments. Hahnemann was a firm believer in the removal of the cause; to-day, with our increased knowledge of the causes of disease and abdominal conditions, "tolle causam" has a far wider significance than in his day.

Hemorrhage after labor may not be primary but secondary, or a better term is puerperal hemorrhage. Such hemorrhage is far less frequent than true post-partum bleeding, and in my own experience has always been due either to retained blood-clots and small portions of placental tissue, or the presence of tumors, such as fibroids, polypi, or carcinoma. Cases are reported in which extreme grief or fright has produced alarming or even fatal hemorrhage. Another cause is the displacement of some of the blood-clots formed in the uterine sinuses, resulting from some sudden move, such as a reaching for some article near the bed, or lifting the baby, or perhaps straining at stool. In this variety of hemorrhage the recognition and removal of the cause is of the first importance. A careful and thorough examination should be made, probably involving the introduction of the hand into the vagina and one or two fingers into the uterus. If clots or placental tissue are found, they should be removed. If these are not found, the uterine tampon is to be used and not the curette. I am going to use the curette less frequently and with more caution than formerly. After the active hemorrhage of any case has ceased and the immediate danger has passed, we should then proceed with greater leisure to

overcome as much as possible the acute anæmia and distressing symptoms resulting therefrom. For this I know of nothing so quickly effective to increase the volume of the blood current as the normal saline solution. A high enema of this is easily given, and other methods are rarely needed, though the hypodermoclysis and, rarely, direct injection into the vein should be remembered. The method of auto-transfusion accomplished by bandaging the limbs may be of temporary benefit in a desperate case. Nature quickly begins to repair the loss, but is greatly assisted by these means and the use of a nourishing liquid food. In the beginning mildly stimulating drinks are useful, such as coffee or very small quantities of whisky in hot water, one-half to a teaspoonful of whisky in three or four ounces of water. More rarely heart and respiratory stimulants will be needed, such as the hypodermic injection of strychnia, or of ether for a short time, but the use of the normal saline injection with a well-selected homeopathic remedy is usually all-sufficient.

Here, then, is the great field for the indicated remedy. More commonly than any other I think china is indicated because of its usefulness in conditions resulting from loss of animal fluids. Carbo. veg. and veratrum alb. have more marked the evidence of collapse. Secale, trillium, cinnamonum, crocus, ustilago when the hemorrhage tends to recur. Often some of the chalybeat foods are helpful, such as pepto-mangan, albuminate of iron, hæmatin, ferri sulph. or ferrum metallicum. I have found these especially helpful for the intense headaches which follow severe hemorrhage. During the first few days after severe loss of blood it is very essential that the patient should be absolutely quiet, and lying down to avoid danger of syncope and the production of thrombosis and embolism.

It has not been my purpose in writing this paper to give an exhaustive review of its literature nor any new method of treatment, but to present as forcibly and clearly as I can the indications for and limitations of each particular method, so that when such an emergency meets us we may act with the precision, promptness, and effectiveness of one who "both knows and knows that he knows."

#### *Discussion.*

DR. FOOTE: Dr. Ogden has covered the ground so fully that he has left scarcely anything for me to say, but I think he did not speak of an accident that often occurs which causes an awful hemorrhage, and that is, inversion of the uterus,

and it produces almost the severest hemorrhage unless it is rupture of the uterus. Of course the remedy is to return the uterus, and the hemorrhage will cease. The remedy which I have found to be most useful after the mechanical work has been done is millifolium and it is of such importance that it ought to be kept in mind. I give it also for hemorrhages from the lungs, nose, and hemorrhages generally, especially in the lung, and I find it very effective.

DR. STEARNS: I agree most heartily with the writer of the paper that hemorrhage immediately following labor, and in that following laceration of the cervix may be very readily controlled by following a routine course of never letting go of the uterus for an instant. I persist until I have either secured permanent contraction or put on a bandage to definitely prevent relaxation. I have made this a routine practice for twenty-five years.

If the Credé method of expression is used, and following that simply holding uterus in the hand, keeping that steadily under compression, it may be ten minutes, half an hour, or maybe an hour until patient has recovered sufficiently to have steady and permanent contraction. This will prevent any danger of immediate hemorrhage.

DR. SOUTHWICK: I would like to emphasize one method of treatment to which Dr. Ogden alluded, and that is, the following down the uterus with the hand, and holding it tight. That is, the doubl'ing of the uterus upon itself. It is not necessary to put the hand in the vagina and pull the uterus forward. By pressing down externally the uterus will come directly upon the pelvic floor. Now if we take the hand externally and press vigorously up (I assume the patient is on the left side), with the left hand holding the uterus firmly down in the pelvic cavity, and pressing externally upward on the pelvic floor, we stop the hemorrhage, and lessen the possible danger of infection. We can thus double the uterus upon itself; we can hold the surfaces in apposition; and by doing this we can arrest almost any hemorrhage ever likely to come to our attention. This, too, can be done immediately. You do not have to call for this or call for that. You can empty that uterus at the first sign of hemorrhage. You can hold the sides firmly together, and no hemorrhage can take place. It is a method of treatment so simple, so free from danger of infecting the patient, that it should be used more.

I had hoped to hear the essayist say something more in regard to the subject of prevention. In many cases we can prevent hemorrhage from taking place by watching and applying the proper remedy. When we have a long tedious

labor, with the patient exhausted, pulse 100 or over, then, of course, we have reason to expect hemorrhage, and in such cases we can give remedies that tend to lessen the danger of hemorrhage. Ferrum phos., I am satisfied, tends to give relief to a tired uterine muscle. Strychnine also does in considerable doses. Quinine is also valuable in many cases, and if we anticipate emergencies we can oftentimes prevent them. There are certain cases which we all dread, and those are the ones with a history of bleeding, where, as has been stated, fibrin may or may not be deficient as a ferment in the blood which produces coagulation. There have been some cases of this kind which have been treated with gelatine with some degree of success. The packing of the uterus in these cases is particularly valuable.

In the treatment of placenta prævia I should differ somewhat from what I understood to be the position of the essayist, that is, on rapid delivery. I think we get the best results by dilating with Champetier's rubber dilator, the apex of the cone being in the cervix, and the base of the cone in the uterine cavity. It makes a wedge, and by compressing the vessels it stops the hemorrhage.

I believe in slow rather than rapid delivery unless there should be some special indication for rapid delivery on the part of the child, for in placenta prævia lacerations are liable which naturally will materially increase the danger of hemorrhage afterward.

In regard to late hemorrhage. There is one symptom which I think is of great value—an undue amount of bleeding, not exactly hemorrhage, but a rather persistent bright red flow. It always comes to my mind that it may be due to retroversion of the uterus. I have found almost always where we get a retroversion of the uterus there is almost always a discharge of bright red blood, not enough perhaps to be called a hemorrhage, but in many of these cases we will find that the uterus is displaced, the fundus being down behind the symphysis pubis.

DR. OGDEN: I would like to ask Dr. Southwick if, after removal of the means of dilatation, in placenta prævia the hemorrhage does not recur?

DR. SOUTHWICK: I have had no trouble that way.

DR. OGDEN, (closing discussion): There is very little to add. I am glad that compression as a means of stopping hemorrhage has been so well emphasized. I think these methods should be given in the proper order. I should put compression first, and when it is properly used, we rarely need go beyond that.

## INFANTILE SCURVY.

BY HENRY EDWIN SPALDING, M. D.

Scurvy is common to people of all ages and climes. Its cause is pretty generally understood to be dietetic. The fact that the exact nutritive elements which, being withheld or furnished in excess, induce it to remain undiscovered has led to various theories. It has been attributed to intestinal auto-infection; to acid intoxication; to micro-organisms that find their way into the circulation through the lesions of the buccal cavity; to epidemic infection; to a deficiency of potassium in the blood; and to simple monotony of diet. Deprivation of a vegetable diet is a recognized cause of the disease. Nevertheless, the Eskimos have no vegetables and are practically free from scurvy. On the other hand, during the potato famine whole communities in England and Ireland were ill with it. They had meat, but were deprived of an article that had formed a large part of their dietary. This the potato, is known to possess a peculiar property, common to many other foods, that is called antiscorbutic. Just what this property is no one knows. Doubtless an impoverished condition contributed somewhat to the result, but the immediate cause was the sudden deprivation of a food that long and free use had made a necessity. The Eskimos, never accustomed to vegetable diet, thrive without it. Meats have antiscorbutic properties, especially if fresh and uncooked, and the Eskimos eat much in that form. Unlike most vegetables, animal products seem to lose their antiscorbutic properties by thorough cooking. Scurvy was not recognized as a disease common to infancy until 1883, when Barlow called attention to it with a detailed report of thirty-one cases. Previously the condition went under the name of marasmus, rheumatism, anaemia, acute rickets, etc. Like mistakes have not been uncommon with physicians of repute up to a very late date. It is well within the last decade that one of Boston's most noted physicians, a specialist in diseases of children, whose book is used in medical schools as a standard

authority, and who has been a most persistent and uncompromising advocate of sterilized milk, told the parents of a child in extreme scrobutus that he had a great many such cases, and he could only account for them as a peculiar kind of rheumatism following grippe. In this case uncooked milk and raw beef juice brought about a speedy recovery.

From careful observation it is evident that infantile scurvy is caused by giving the child food which lacks certain elements needed for its nutrition, or which furnishes them in such a form that the child cannot assimilate them. The fact that of several children fed on the same kind of food some became seriously scrobutic, while others were but slightly affected, and others not at all, seems to indicate that some other element than the food acts as a contributing cause. This may be some constitutional dyscrasia. An inherited syphilitic taint has been suggested as a predisposing cause. When mothers generally nursed their babies the disease was doubtless less common than now. The increased prevalence has kept pace with the introduction and use of condensed milk, proprietary foods, and, the later and most pernicious of all, sterilized milk. Unfortunately vital statistics cannot tell us the number of lives that have been sacrificed to these laboratory products, because the real conditions not being recognized, the deaths have been assigned to other causes. Probably mortality reached its maximum from five to ten years ago, when sterilized milk was on the high tide of popular favor.

As far as this disease is concerned poverty has been the infant's safeguard. The mother in poverty cannot afford proprietary foods, laboratory milk, or the apparatus and time for sterilizing milk at home. She must nurse her young or feed them on common cow's milk and such other articles of food as the family table may furnish, and the caprice of the moment suggest. These last foods may be disastrous in other ways, but the little one is not the victim of scurvy, with its prolonged suffering. It is only the well-to-do and wealthy who can afford laboratory foods, and among them the disease has been most prevalent.

Most proprietary foods are prepared with more or less milk. If the milk is "live," uncooked, and not too much diluted they are not generally harmful, but in many cases very beneficial. Without a free supply of "live" milk they are, without exception, harmful.

Besides other qualities, not pertaining to this subject, which render condensed milk unsafe, its antiscorbutic qualities have been destroyed by the process of preparation. I never saw a healthy child which had been fed several months on an exclusive diet of condensed milk.

Perhaps nothing so undeservedly, and yet so completely, found favor with the profession and laity as sterilized milk. Its advent was coeval with the excitement attending the discovery of microbes, and it having been found that prolonged high temperature destroyed them, it seemed reasonable that milk should thus be freed from germs. It was found that sterilized milk could be kept several days without becoming sour. This and the long proved efficacy of a boiled milk diet in acute diarrheic troubles seemed to argue in its favor. With these things and a backing of laboratory investigation, scientific in appearance, there is little wonder that it was at once accepted. So enthusiastic were its advocates ten years ago that those of us who dared condemn, or even question its use, after having tried it and seen its baneful effects, did so at the peril of losing caste as scientific and up-to-date physicians. In Boston was established the first milk laboratory in the world. The fever for sterilized milk ran high, and most grievously did the babies suffer for it. After a time it was discovered that a temperature of 212° F. was not necessary for the destruction of the morbid germs; that keeping the milk at a temperature of 160° F. for a few minutes was sufficient. This was called pasteurizing, because sterilized milk was fast losing favor. Babies fed on this still became scorbutic. Now, lest milk laboratories be relegated to innocuous desuetude, it has been declared that milk must be modified. It must be separated, as far as possible, into its primitive elements, and then, in clumsy imitation of nature, put together again. This milk manufactured from milk may

be pasteurized or not, according as the attending physician thinks the child's condition demands.

That feeding a child on cooked milk, other than temporarily for some acute intestinal trouble, is always harmful there is abundant evidence to prove. This evidence comes from experimental use in both hospital and private practice. Of the many reported experiments time will admit of reference to only one of recent date. Dr. E. M. Sill (Med. Record, Dec. 27, 1902) reported observations made in a large dispensary, which furnished food prepared according to the latest approved laboratory methods. Appliances for doing the work were perfect, the bottles were absolutely clean and sterile, and were distributed daily by competent and reliable nurses. The cases were individualized and the milk was modified according to the apparent needs of each child. During the three summer months the milk was sterilized, the remainder of the year it was pasteurized. A careful watch was kept on these children. Of the entire number thus fed 97 per cent. showed unmistakable signs of rickets or scurvy. It is fair to presume that the mothers of the other 3 per cent. were careless, and disregarding instructions gave other foods. Of these children forty had the breast, excepting five to seven feedings daily. All of these, even, had symptoms of rickets or scurvy, but in less degree. Some still advocate cooking the milk. Holt ("Infancy and Childhood," p. 211) says, "It is undoubtedly the milk formula employed which is at fault, and not the process of heating." In answer to this, cases are reported where the formula was continued and the sterilizing stopped, and recovery resulted without other treatment.

Breast-fed babies sometimes have scurvy, but less frequently than formerly, when nursing mothers restricted their diet to bread, meat, and nutritive drinks, instead of the liberal and varied diet, including fresh fruits and vegetables, generally used to-day. To account for these cases the flow of milk has in some instances been found deficient in quantity, in others there has been a free flow, but the milk has been deficient in proteids, and it is probably also deficient in some other property that has not yet been discovered. A woman

employed as a wet-nurse continued to nurse her own child. Her child continued well, while the other had scurvy. The scorbutic child either was deprived of its full share of food or had a predisposing dyscrasia.

Monotony of diet has seemed to be a cause of scurvy in the adult. If in the adult, it may be in the child. The nursing mother's life is one of variety in physical exercise, in psychological conditions and in diet. The result is that the breast-fed child has no two feedings in a day that are exactly alike. A cow's milk will likewise vary somewhat one day after another, and milk from several cows mixed is found better for a child than the milk from one cow. This is another element to be taken into account for the disastrous results attending laboratory prepared foods, whether they be proprietary foods or modified milk. If foods thus prepared are day after day made of elements in exact proportions, one with another, as is claimed for them, we are not following nature's way, and the nearer we imitate nature in preparing food for the bottle-fed baby the more surely will we have a healthy, robust child.

While the symptoms of infantile scurvy are distinct they are not constant in all cases. Generally, however, a sufficient number of distinctive symptoms are present to lead the careful observer to a correct diagnosis. The symptoms do not appear in an established sequence. While in a condition of apparent health a child may abruptly develop symptoms that are ordinarily looked for in advanced stages of the disease.

The symptoms may be classified as follows:

1. A general cachexia, increasing anæmia, flabby muscles, emaciation.
2. Offensive breath, flabby tongue, perhaps sore mouth, swollen and bleeding gums, discoloration and ulceration around erupted teeth.
3. Skin dry, pale, or sallow, ecchymosis in various parts of the body, petechial spots on limbs and abdomen.
4. Appetite capricious.
5. Bowels inclined to constipation with clay-colored stools,

or greenish, mucoid, diarrheic discharges, occasionally traces of fresh blood, but oftener dark, tar-like matter, indicating blood that has been subject to intestinal changes.

6. Urine diminished in quantity, dark and laden with urates, except in cases caused by too dilute food, then the quantity may be normal or increase. Bloody urine. In my personal experience this has been very generally present in fully developed cases, which seems to be contrary to the recorded experience of others. Often, pretty early in the disease, the napkin would have an unmistakable pinkish hue, as though wet with bloody water.

7. Fever is not generally present, unless there be some complications, and then seldom more than one or two degrees.

8. Hyperæsthesia is often the earliest symptom noticed. It may be confined to one leg but usually extends to the other, and later to the arms. The least movement of the affected limb causes severe pain. The child learns to fear being handled, and will often cry at the approach of the nurse; is comfortable and free from pain if let alone. If the child's attention is diverted the limb may be rubbed or quite firmly pressed upon with little indication of pain, so long as it is not moved. Pseudo-paralysis, or a disinclination to move the limb is a natural sequence of this hyperæsthesia. The child lies on its side, leg drawn up, semi-flexed, and the foot drooped. There is a peculiar edema of the dorsum of the foot. It does not pit on pressure and the tissues are semi-translucent. If the upper extremity is affected the forearm is semi-flexed and rests on the chest. The child will lie in this position for hours and gets the credit of being a good child, for it makes no complaint while undisturbed.

9. Swelling around the large joints, especially the knee and ankle. It is most marked just above the joint, and extends upward along the bone. There is no redness of the skin, nor local increase of heat. As the disease advances this swelling of the soft tissues subsides somewhat and is confined to the lower half of the bone. Deep pressure reveals a firm, fusiform enlargement of the shaft, which is due to subperiosteal

hemorrhages. The degree of this swelling varies. These hemorrhages are usually confined to the fibula, tibia, humerus, and radius. The only flat bones liable to be thus involved are the cranium and scapula.

10. Fracture or separation of the involved bones at the seat of the tumefaction. Crepitation is absent, and the ends of the bone cannot be detected through the soft tissues and mass of extravasated blood.

11. Hemorrhages of the bowels, kidneys, mouth, nose, and stomach. Rarely from the ear, or into the orbit, causing exophthalmus.

The diseases with which it is most frequently confounded are purpura hemorrhagica, on account of the bleeding from the mucous surfaces, the ecchymoses, and petechiae; with rheumatism, hip-joint disease and paralysis on account of the pain on movement and the swelling, and pseudo-paralysis; and with rickets. Purpura differs from scorbutus in the absence of hyperesthesia and pseudo-paralysis, or deep periosteal hemorrhages and bone separation, and of spongy, bleeding gums. The hemorrhage is more superficial, being confined to the mucous surfaces and subcutaneous tissues.

Rheumatism differs in the absence of all hemorrhagic symptoms, cachexia and spongy gums. In rheumatism the swelling on the limbs is attended with heat and redness, pain while quiescent, which is sometimes relieved by motion. Hip-disease differs with the absence of hemorrhagic symptoms and spongy gums, and of swelling above the knee and ankle, and in the presence of fixation. Paralysis differs in the absence of hemorrhagic symptoms, swelling around the joints and cachexia. A little discrimination will discover that the immobility is not from want of muscular power, but from pain incident to movement. The reflexes are normal or increased. The sphincters are unaffected.

Rickets has symptoms resembling scurvy and sometimes both diseases are present. It differs in the absence of hemorrhagic symptoms, and in the presence of prominent abdomen, sweating around head and shoulders, bending of the long

bones, enlargement of joints, deformity of the thorax, and misshapen head.

**Pathology:** The inner layer of the periosteum and the lines and areas of ossification, which are points of physiologic congestion and active growth, are seats of hemorrhage. The bone beneath these hemorrhages is absorbed. An attempt at reconstruction is shown by the development of new tissue, but it contains few bone-trabeculae. Cartilage cells proliferate freely but atypically, and there is no formation of bone. Hemorrhages are found in the tissues of the liver, lungs, and spleen. The kidneys show catarrhal nephritis. The mucous membrane of the intestines, more especially of the colon, is thickened and studded with follicular ulcers.

Treatment is most essentially dietetic; in short, with proper food most cases recover speedily without the aid of medicines. The diet should be good, healthy breast-milk if possible. This is seldom available for the reason that when scorbatus develops the bottle-fed child has reached an age when it will refuse the breast. The next best is good "live" milk of the cow. The proportions of cream, milk, and water, and sugar of milk must be determined by the age of the child and its digestive powers. Usually very little milk can be given at the start, but it can be added in increasing quantities day by day. On no account use laboratory milk. The milk must not be cooked, nor put through the separator. The cream used should be obtained after the domestic manner of "setting milk" and either skimming off the cream, or syphoning off the milk and leaving the cream. The juice of raw beef, slightly salted, should be given three or four times a day. The little patient usually takes it with marked avidity. Orange juice, or fresh grape juice, or scraped raw apple, are valuable as antiscorbutics and for the relief of the usual constipation. Even some diarrhea does not contra-indicate the grape or orange juice.

The three remedies I have most often found indicated are arsenicum, phosphorus, and china.

## CARDIAC DISEASE AS A COMPLICATING FACTOR OF PREGNANCY AND PARTURITION.

BY NATHAN STARR, M. D.

This title may not convey the exact meaning of this paper, but the writer hopes that the subject-matter will sufficiently elucidate it.

Some physicians prefer the term *gravido-cardiac accidents* or disturbances in the cases under consideration, but as this term applies to all cases of cardiac trouble during the period of gestation and parturition, and as this paper is limited to those with a pre-existing cardiac lesion, that term is not used. The profession seems to have been rather late in appreciating the fact that the heart of a woman is profoundly affected by pregnancy. Larcher, in 1857, first called the attention of the profession to what he termed *cardiac hypertrophy* in pregnant women, and this naturally led to more extended observation by investigators of cardiac pathology, but for some reason our text-book writers seldom touch upon this question, despite the fact that so many of the deaths during the period of gestation and at full term are due to pre-existing cardiac lesions or degeneration.

Many of our most eminent clinicians and pathologists—Porak, Peter, Germain-See, Charot, Lebert, Cohnstein, Virchow, Doroziez and others—have been interested in cases of this character and have given this subject some of the attention it so richly deserves and the only wonder is that it has received so little attention from the profession in general.

In a paper of limited length, like this, it would not be policy to attempt even a review of the papers on this subject, but I shall give some of the deductions that one is justified in making from well-established facts relating to this question.

### I. The effects of pregnancy on the normal heart.

(a) Immediate. During pregnancy, the heart in most cases undergoes hypertrophy, or to be more accurate, and exact, dilatation occurs in the chambers of the right side of the heart and the left auricle, while the left ventricle is noticeably hypertrophied.

(b) Secondary. The relative frequency of mitral stricture in women and men is as 7 to 3, and it is the opinion of those who have studied the question that pregnancies and menstrual derangements are responsible for the greater frequency in women.

## II. The effect of pregnancy on the diseased heart.

(a) A heart already diseased or crippled by a former endo- or myocarditis, or by valvular insufficiency or stenosis, is exposed to unusual danger during the period of gestation, at the time of labor and during the puerperium.

(b) A woman with a diseased heart, if she bears children, is, if she escapes with her life, courting chronic invalidism, and while a primipara, or even a multipara with good compensation, may bear a child with seeming impunity, each successive labor lessens her resistance and increases her danger.

III. A diseased heart produces a tendency toward abortion or premature labor and has a deleterious influence on the development of the fetus and health of the offspring.

As to the danger of the various lesions, we conclude that degenerative changes and complex lesions give the most unfavorable prognosis. A slight insufficiency at the mitral valve, if well compensated, is not apt to cause serious trouble. A pronounced leakage is almost sure to lead to pulmonary accidents. Stenosis is more serious than insufficiency.

Dr. Porak, who has probably made the most exhaustive study of cardiac lesions complicating pregnancy, says that death will occur in about 38 per cent. of the cases; in about 25 per cent., the condition will remain stationary, and in the remainder there will be an aggravation of the condition.

I report four cases of interest that have come under my observation.

CASE I.—February 19, 1896, was called to attend Mrs. E., primipara. Found her in first stage of labor. As labor progressed an unusual pallor of face was noticed. Patient complained of weakness and shortness of breath, and this led me to examine her heart. Examination revealed mitral regurgitation with rather poor compensation. As best I could, I hastened delivery, but it left patient greatly exhausted. Prescribed strychnine, ars. 3x and cactus. Lying-in period of

three weeks, and then she got about slowly. Was unable to nurse child. Child only moderately well nourished, and much difficulty was experienced in taking it through first summer. Advised husband in regard to wife's condition, and explained the danger that might result from another pregnancy. In October, 1896, was called to see Mrs. E. again and found her having occasional pains and flooding badly. Third month of gestation. Patient extremely weak. Radial pulse a mere thread. Collapse seemed imminent. As rapidly as possible I effected removal of uterine contents, patient fainting several times during process. Stimulated with aromatic spirits of ammonia and dig. Patient convalesced slowly. No subsequent conception to my knowledge, and in the course of time a fair degree of compensation was established.

CASE II.—During February and March, 1891, treated Miss H., aged fifteen years, for acute inflammatory rheumatism. On examination during first visit, found mitral regurgitation, and the history of the case showed conclusively that its origin dated back six years to a prior attack. This attack proved to be a severe one, and with a crippled heart to contend with grave fears were entertained for her recovery. Finally convalescence was established. Naja tripudiens 6x was given for a year or two at intervals and a better compensation was established than had existed previous to last attack of rheumatism. April, 1896, the young lady married. February, 1897, was called to wait on her in confinement. Labor began at 1 P. M. and at 4 P. M., delivered her of a nine-pound boy baby, well developed except in lower extremities, where double equino-varus existed. Labor was easy, and being of short duration, the mother stood the ordeal of delivery very nicely. Was allowed to leave her bed in two weeks. Advised against subsequent pregnancy, and advice has been heeded.

CASE III.—Mrs. D., aged forty-six, has been under my care during the last eight years and her history during the child-bearing period is one of interest. She is the mother of six children, three of which are living. She had acute inflammatory rheumatism when fifteen years o'd, with endocardial involvement, leaving a mitral insufficiency. General weakness and shortness of breath for several years. Married

at nineteen. First child stillborn, prematurely. Second child died in infancy from bee-sting. The fourth died the first summer. The living children are not rugged, and the youngest had double equino-varus. The oldest child living had a congenital cyst near the frontal eminence. The youngest child is now ten years old, and since his birth the mother has led a life of chronic invalidism, her life being despaired of many times during the last six years, and a termination at any time will not surprise us.

CASE IV.—Is not from my own practice. Three years ago Mrs. A. (daughter of a physician, deceased), living in an adjoining county, just across the line, gave birth to twins, and a few hours later died. Dr. E., of Kansas, Illinois, consultant in the case, in answer to a letter, wrote me as follows: "Mrs. A. had a past history of heart trouble. When I saw her, she had been delivered of twins about three hours before. Labor was normal, but she had retained placenta, that I took from her without much trouble. Soon after, she became cyanotic and heart seemed at standstill. I injected heart stimulants and used artificial respiration for a long time to keep life in her, but failed to make the heart rally. Now my belief is that past heart trouble aggravated by labor was the cause of death and nothing would change my opinion."

A friend of the family told me that, when a child, this woman had a severe attack of scarlet fever with a long and tedious convalescence, and in the light of this fact the doctor is certainly justified in his opinion, and we in assuming that in this case, an old endocardial or myocardial lesion became manifest and active during pregnancy, leaving the heart by the end of the term in no condition to endure the strain placed upon it in parturition. Both children died within a year.

These four cases are not a sufficient number on which to base conclusions, yet they confirm conclusions based on a study of large numbers. The death of one mother, the invalidism of two, and one unaffected; ten children born, five living, of which only two were without congenital deformity, make a record the repetition of which should not be encouraged.

As to the duty of the physician in these cases, and toward

the woman not possessed of a good physical heart, it clearly and manifestly must be advisory and along the line of prophylaxis. While admitting the truth of all that our strenuous President has said about race suicide in the United States, here is one class of women that should be exempt from child-bearing. The consensus of opinion of those who have made a study of this condition is that women so afflicted had better not marry, and if they do marry, they should not become mothers.

I know the physician is not usually consulted in matters of the heart when the young lady is matrimonially inclined, but some physician generally knows the condition of the heart, if diseased, before this period is reached, and with skill and tact might apprise the owner of such a heart, or a near friend or relative who would impart the knowledge of her true condition without giving an offense.

No doubt most girls would prefer being listed later with the "bachelor girls" rather than with the "deceased or invalid wives," and if the afflicted one knew the danger that confronted her she would not be slow to make a right choice.

If a woman with a diseased heart has married and has conceived, I question the advisability of suggesting disaster to her, though she is unconsciously facing it, but for the protection of the physician in charge of the case, and for the good name of our profession, it would be better to give a warning to some interested person, of what may happen, rather than to shut one's eyes against the unpleasant truth and say that it does not exist, or that it is to be hoped that in this instance serious consequences will not result. A wise prognosis will do as much, or more, than diagnosis to preserve the confidence of the laity.

Duty in these cases also extends to posterity, and those who believe in quality as well as quantity have a right to enter an objection. Surely a child should have the privilege of being well born, physically, mentally, and morally, and surely this aspect of the question will have to be considered before we can look for material improvement in the physical well-being and in the intellectual and moral condition of the race.

## A STUDY OF THE PELVIS FROM AN OBSTETRICAL STANDPOINT.\*

BY C. C. MEADE, M. D.

Experience has taught me how frequently deficient is the general practitioner's knowledge of the anatomy of the pelvis, both normal and abnormal, and especially from an obstetrician's standpoint.

During our student life we have an opportunity to read one or two interesting paragraphs from Gray's Anatomy, which gives a comparison between male and female pelvis, fetal and adult pelvis, and their changes in development; also the various peculiarities found in the adult female pelvis of different races.

The information obtained in the study of the pelvis is both subjective and objective; to the practical, studious accoucheur the general appearance of the patient, regarding physique, stature, locomotion, including some other minor details; next her family history, searching for dislocations of the femur, fractures of the pelvis, probing deeply for hereditary taints; also being careful not to omit specific tendencies which directly or indirectly affect the osseous system.

Two hundred years ago obstetricians knew but little about the mechanism of labor; they thought the bony pelvis became disarticulated by a process of nature, converting bone to cartilage during the pregnant stage, allowing the passage of the fetus; the bones resuming their osseous form and becoming rearticulated before the lying-in period closed.

Boudelocque in 1775 added the tape and calipers, the latter having curved prongs with knobs on either end (pelvimeter), to digital and manual examination and measurements of the pelvis. To him this was at first unsatisfactory, yet his untiring efforts so improved his method that subsequent authors and students have acquired such accurate results from numerous clinical experiences that another permanent stepping-stone has been laid for the progress and science of obstetrics, though like many other diagnostic features, pal-

\* Read before the Miami Valley Medical Association at Dayton, O.

pation, percussion, and auscultation, it requires practice to obtain helpful and satisfactory information.

The antiseptic finger and the antiseptic hand are the best instruments for measuring the int. dimensions of the pelvis, and in a primipara with suspected abnormal conditions, it would be better to give an anæsthetic before she is examined. Introduce the index and middle fingers into the vagina, pressing firmly upon the perineum, until the promontory is reached; search for a false, as well as a true, promontory, consider the one most nearly approximating the pubic arch as the posterior point of measurement, elevate the hand, resting the tip of middle finger upon promontory, to the pubic bone; noting the point of contact by placing the tip of index of the right hand at juncture of left index and pubic arch; this gives the diagonal conjugate; by use of tape or pelvimeter, take the measurement and deduct  $\frac{1}{4}$  to  $\frac{1}{2}$  in.; the remainder gives the true conjugate.

If the promontory cannot be reached, or is reached with difficulty, a long conjugate is safely predicted, likewise, with few exceptions, a pelvis affording no obstructions to labor.

If it becomes necessary to measure the transverse and oblique dis. this is done, with less accuracy than the former, by introducing the entire hand into the parturient tract; by backward and lateral manipulation, may determine whether or not these dis. are normal in their relations to the ant. post. di. External measurements are taken from the following points or landmarks:

Distance bet. the ant. sup. spines of the ilia 10 to  $10\frac{1}{4}$  in.; distance between the crests  $10\frac{1}{2}$  to 11 in.; distance between the trochanters 12 to  $12\frac{1}{4}$  in.; distance between the depression beneath the last lumbar spine and the ant. surface of pubes to within about  $\frac{1}{2}$  in. of the superior border, 8 in.; from this deduct  $3\frac{1}{2}$  in., which gives the int. conjugate di (Beaude-locque's di.)

There are six general classifications of deformed pelvis, and under each of these there are from two to eight sub-classifications. I will endeavor to describe but four,—the simple flat pelvis, the general contracted (justo-minor), the generally equally enlarged (justo-major), and the rachitic pelvis. The simple flat pelvis was first described by Deventer, who

knew no difference between this and the rachitic pelvis. In Europe it is more frequently found than the sum of all deformed pelvis, but not so frequently found in America as the justo-minor pelvis. Its ant. post. di. is contracted, the transverse di. is greater than in the normal pelvis. The causes of this malcondition are hereditary, arrested rachitis, overwork before puberty, early walking, carrying heavy weights, and a heavy trunk upon a pelvis ill fitted to bear it, on account of weakness of ligaments. Fehling says most of them are congenital and inherited; he found some cases in the newborn and the fetus. It is with unusual care that a diagnosis is made, there is nothing in the appearance of the patient which would suggest the condition. Int. and ext. measurements, which disclose a short ant. and a lengthened transverse di., are the diagnostic points. Its influence upon labor is pendulous abdomen, especially in multip., the uterus is broad and tilted to one or the other side, the head of the child assumes the transverse position, which is the longest di. of the pelvis; malpositions, prolapsed cord and limbs are common, the liquor amnii presents in a form of a cylindrical pouch on account of the imperfectly engaged head and imperfect flexion. A child to be born under this circumstance, takes, first, the transverse position; if the head cannot become engaged the occiput drops back to the pelvic brim on the lateral surface, relieving the bi-parietal di. of the fetal cranium; placing the bi-temporal, which is  $\frac{3}{4}$  in. shorter, in contact with the contracted ant. post. di. of the pelvis; if the di. of the head is yet too great to allow the head to engage, it assumes the oblique position with the ant. parietal bone presenting.

The results of labor are necrosis of the soft parts of the mother, over the promontory and ant. surface of the pubes from extreme pressure of the child's head. The caput succedaneum is not exaggerated, when the head finally becomes engaged, it descends the birth canal rapidly. There is apt to be a depression on the portion of the head applied to the promontory; usually the post-parietal bone is depressed, the ant. overlaps it at the sagittal suture and if the ant. fontanelle is the presenting part the ant. parietal is pushed under the post-parietal at the sagittal suture.

In the justo-minor pelvis the form is preserved, but the size

is diminished. It is found in women of slight build, who are below medium height, but may be found in women of ordinary structure, and exceptionally in a tall woman of large frame. It is caused by arrest in development, and is frequently discovered in women descended from a stock deteriorated physically, also in those who, in infancy, were surrounded by unfavorable hygienic conditions. In this abnormality the ant. post. diam. is increased on account of the sacrum being thrown backward. Ext. and int. measurements should be carefully resorted to, likewise determined approximately the pelvic cavity and inlet, with special regard to the length of the transverse diameter.

Tardy engagement, comparative length of ant. post. diam., and extreme and complete flexion are the redeeming features in this form of contraction. If there possibly exists enough room for passage of fetal head, time and non-interference will deliver. Pelvic presentations are born with great difficulty on account of extended arms and extended chin. To secure rapid passage the attendant must flex the head by placing the index finger in the child's mouth before an attempt is made to secure engagement in the superior strait. The woman escapes necrosis of the soft parts, but may rupture the pelvic joints, and she is, indeed, liable to eclampsia. The caput succedaneum is large on account of tedious labor and early fixation of the child's head. If it is found directly over the post. fontanelle it is because of extreme flexion; there is in some cases overlapping of cranial bones in both ant., post., and lateral directions.

Justo-major, or the equally enlarged pelvis, is generally found in women of gigantic stature, though it may be described in women of medium height. The pelvis of the Nova-Scotian Giantess was large enough to give passage to a 28 $\frac{3}{4}$  lb. child. External measurement is the diagnostic feature. If all the dis. are increased, maintaining their normal relations, the diag. of a justo-major pelvis is justifiable.

On internal examination it is difficult to reach the promontory, and likewise the lateral pelvic walls, consequently this anomaly does not obstruct labor; on the contrary, it precipitates it. If there is any delay at all, it is within the grasp

of the soft parts. During pregnancy, the uterus sinks, pressure on the pelvic viscera and blood-vessels is common; during the latter period these symptoms become so aggravated that it may interfere with locomotion. In labor there is insufficient resistance to engagement, imperfect flexion at sup. strait may be observed and a tardy rotation of the head on pelvic floor.

Rachitic pelvis—In the healthy life and growth of bones two opposing processes are found. On the periphera there is an active proliferation of cells to form the bone structure, while the interior bone substance is being constantly absorbed by the marrow. In rachitis the absorption goes on more rapidly than in healthy bone, and at the same time there is, in the periphera, a very much more rapid proliferation of cells, which does not develop normal bone structure; their growth and multiplication result in the formation of an osteoid material, poor in lime salts and much more pliable than healthy bone. In the rachitic pelvis the size and shape of the canal are modified by three factors; pressure from the trunk above, pressure from the legs below, and traction upon the bones by ligaments and muscles. This pelvis is more easily diagnosed than some other malconditions—general appearance and history of patient, int. and ext. measurements are the important points; and influence upon labor is the same as in simple flat pelvis, but more aggravated on account of the enlarged promontory. When the head passes the superior strait, labor is more rapid than in simple flat pelvis, because of the long diameter of the outlet and the shallowness of the canal. Injuries to the head and maternal soft parts are common, the indentations from the sharp points of pressure causing a spoon-shaped head and fractures of the parietal bones. The necrotic condition of the soft parts of the mother may be so excessive that it results in sloughing which may establish openings between the birth canal and the peritoneal cavity, the bowel, the bladder, and rectum.

Time and space allows no more upon this subject at present, but the little I have said will evidently convince one that the subject justifies a more thorough knowledge of both normal and abnormal pelvis.

## CLINICAL CASES.

BY WM. FRANCIS HONAN, M. D.,

Attending Surgeon to the Metropolitan Hospital, Department of Public Charities.

Gentlemen:

The first case is one of apparently uncomplicated retroversion of the uterus in a young woman of thirty-five years of age and unmarried. Looking over the history of her case you will find the usual subjective symptoms of that condition, more or less occipital headache, backache, bearing-down sensation, excessive menstruation, some leucorrhœa, obstinate constipation, lassitude, easily fatigued by much exertion, particularly walking, and many other symptoms, referable more or less to the nervous system. Upon examination the uterus is found retrodisplaced to the 3d degree, which means that the fundus is in the hollow of the sacrum with the cervix directed upwards and occupying a higher level.

The condition here will probably account for nearly all the symptoms complained of by the patient. The leucorrhœa and excessive menstruation are due to the congestion and chronic inflammation of the endometrium; pressure on the rectum by the fundus uteri often acts like a ball valve and hinders defecation, while the tugging on the vesico-uterine connection and the pressure of the cervix against the neck of the bladder explains the frequent and often painful micturition. Of course the ovaries and tubes are displaced or prolapsed and malposition of those organs produces pelvic congestion and the evils in its train. The question to be decided in this particular case is what form of operative procedure is indicated as most likely to produce the best results, and I most unhesitatingly answer ventro-suspension through an abdominal incision. There are occasionally spasmodic attempts to revive Alexander's operation, a procedure in some respects almost ideal because it contemplates simply assisting nature. It however necessitates two incisions; the uterus must be free from adhesions; and the round ligaments must be sufficiently strong to hold the organ in the correct position. There

should be no difficulty in in the performance of this operation, but in average hands failure to find the ends of the ligaments makes it oftentimes a prolonged and vexatious procedure. Careful attention to anatomical details and recognition of landmarks should guide the operator to certain success; failure to observe these precautions will frequently make the clinical surgeon cut a sorry figure before his class. The advantages of ventro-suspension are principally that the peritoneal cavity is opened to direct examination, and complete diagnosis can be made in every case. This you will see at once is of the greatest importance for the reason that several conditions may overlap. Not only diseases of the uterus or appendages may be encountered, but also the appendix veriformis is more than likely to participate in right sided difficulties. Should there be any suspicion directed to the gall bladder or ducts, the pancreas, spleen, intestines, or kidneys, an increase in the length of the abdominal incision will bring all of those structures within the reach of the examiner's fingers. I might multiply those advantages to even a greater degree, but will pass that portion of the subject by stating that ventro-suspension is furthermore indicated in all those cases in which Alexander's operation is contraindicated. I particularly desire to call your attention to the technique of this operation and it will be my purpose to give you very definite directions, so that you may have a precise knowledge of the procedure.

It is well to curette the uterus first, and with the patient in the dorsal position a Martin speculum is introduced into the vagina and held by an assistant; if you are short of help you may use a weighted self-retaining speculum. The cervix is grasped with a bullet-forceps drawn down and a Wylie dilator introduced.

I would caution you at this juncture about the unnecessary and indiscriminate use of the uterine sound, which is a very dangerous instrument. You should be able to make out the size and position of the uterus by bimanual examination which renders the use of the sound in ordinary cases quite unnecessary. The cervix is gradually dilated; no great amount of force is used, but is steady and gradual; a sharp curette is

introduced and the uterine cavity carefully and systematically gone over, not forgetting the cornua, as carefully curetting at this point has a tendency to cause patency of the tubes if there is much thickening of the endometrium. You will notice that I do not make any intra-uterine application, but simply wipe out the uterine cavity with a bit of sterile gauze and pack the vagina. I assume that the cavity of the uterus has been carefully scraped and is in an aseptic condition, then why make a slough with iodine or carbolic acid or both? It cannot help the condition and very probably does some harm. Intra-uterine irrigation is quite unnecessary and may be also quite harmful. You frequently find after curettage and irrigation that there is quite an amount of bloody fluid in the peritoneal cavity. It is a part of the solution which has got into the abdomen through the fallopian tubes. I have seen it in several instances and it gave some concern the first time I saw it. You can wipe out the cavity quite as satisfactorily and with much less danger. The vagina is now loosely packed with gauze, and we will have the position of the patient changed and will invite your attention to the operation for ventro-suspension. You may have the patient in Trenlenburg position or not, just as you please. You incur less risk of injury to the bladder perhaps if you start with patient in the horizontal posture.

An additional and never-to-be-forgotten precaution is to be assured that the patient has been catheterized just before going to the operating room. An incision two inches long in the median line and about one inch above the symphysis is made through the skin. The fat is divided down to the fascia which is split and the muscles separated with the handle of the scalpel. When the peritoneum is reached it is caught on either side of the median line with forceps, lifted up and opened with a knick of the knife or scissors. If you are at all nervous about wounding the bladder the opening may be made in the peritoneum towards the upper angle of the incision. The peritoneum is opened the full length of the skin incision, caught with artery forceps in the middle on both sides and drawn out over the skin. A digital examination is now made, the fundus is found locked in the hollow of the sacrum. It is easily brought

into position, and I turn my attention to the adnexa. There is some slight congestion of the tubes and the right ovary is considerably larger than the left, but these conditions will in all probability disappear when they are restored in their proper positions. Passing a flat gauze pad behind the fundus to keep the intestines from falling in the field of operation, I will now ask the assistant to hold the uterus steadily, in the median line with the bullet forceps. You notice I turn the posterior surface of the uterus up towards the incision in the abdomen. A curved, sharp, non-cutting needle is now threaded with No. 2 chromicized catgut of a reliable make, or better still a strand of kangaroo tendon, and passed through the peritoneum about three-fifths of an inch from the wound margin, dips down about one-quarter of an inch and then emerges on the peritoneum about one-half inch from point of entrance. The needle is then introduced in the posterior surface of the body of the uterus to one side of the median line, about two-fifths of an inch below a line connecting the uterine end of the fallopian tubes. The uterine part of the suture takes up enough tissue to insure a firm hold. The needle is now carried through the peritoneum at a corresponding part on the opposite side in the same manner. A second suture is now introduced about two-fifths of an inch below the first, to draw the posterior surface of the uterus more thoroughly in contact with the incision. The sutures are tied; the one first introduced is tied first, then the second; great care is exercised lest any loop of intestine or piece of omentum be caught at any point. Pads are now removed from the peritoneal cavity, and the peritoneum closed with a continuous suture of fine catgut. You will observe that just over the fundus of the uterus where the suspension was performed, the two layers of peritoneum which were brought into apposition by the tightening of the suspension sutures, stand up like a cockscomb. To make assurance quite sure, it is my custom to pass a single kangaroo tendon suture through the rectus muscle, then through this elevation of peritoneum, but not through the fundus of the uterus, through the other side in the same way and tying it over the muscles. This I regard as a very important step in the technique as it prevents the

peritoneum being dragged away from the abdominal wall and the formation of a new suspensory ligament too long or too slender to be of service. Without this part of the technique being observed, I have seen in subsequent operations where it became necessary to open the abdomen for other conditions, the result of a previous ventro-suspension. In one case the suspensory ligament was so long that it had permitted a complete retroversion. Done in this way the adhesions are allowed to become firm before the absorption of the suture material, and the result is a ribbon-like band of variable width composed of connective tissue, some muscular fibers covered by peritoneum, a veritable new suspensory ligament supplementing the inadequate uterine supports. The passage of the sutures slightly posterior to the horns of the uterus gives it a forward tilt, and all intra-abdominal forces are exerted against its posterior surface, which tends to keep it always in the position of normal anteversion. After the operation the adhesions stretch out to such a degree that bimanual examination will show nearly or about the normal range of mobility. Statistics of such cases as have been kept under observation show improvement in the condition, and a very small percentage of miscarriage or dystocia in subsequent pregnancies.

The fascia is now brought together with No. 2 catgut continuous suture and finally the skin with a subcuticular suture of catgut.

Case II. Femoral Hernia. On the anterior portion of this woman's thigh you will notice a swelling about the size of a hen's egg, in relation with Poupart's ligament. There is an impulse on coughing, the tumor is reducible and we are very sure that it is a hernia. One point well marked in this case which I think you will see is a femoral hernia, is that the hernia advancing in the direction of the least resistance curves upwards over Poupart's ligament so as to resemble an oblique inguinal hernia. We now make an incision parallel with and slightly below Poupart's ligament. Continuing the dissection the sac is exposed, opened, contents which is omentum returned to the abdomen, sac transfixated with heavy catgut, ligated and cut off. Please observe

now the suturing of the femoral opening after the manner of Bassini. A curved needle is threaded with kangaroo tendon, is passed through Poupart's ligament parallel with the femoral vein into the pectineal fascia, pectenous muscle and periosteum of the ramus of the pubes, until you hear and feel the scratching of the needle against the bone; the point of the needle then emerges and another suture is introduced about one-quarter of an inch distant in the same way. Two sutures are usually sufficient, but more can be introduced in the same way until the canal is firmly closed. Now as I draw on these sutures the femoral opening is entirely eliminated. The skin is closed with a continuous suture, a small bit of rubber tissue is inserted in the lower angle of the wound for twenty-four hours for drainage. This will drain away about a tablespoonful of bloody serum, it will diminish the tension, there will be less tenderness and pain in the wound, and healing will be more prompt. This patient will be kept in bed for three weeks.



## HOMEOPATHIC REMEDIES IN ENTERO-COLITIS.

BY WALTER SANDS MILLS, M. D.,

Physician to the Metropolitan Hospital; Physician to the Hahnemann Hospital  
Out-patient Department.

**Pulsatilla.**—My first thought in any disease having diarrhea as a prominent symptom is pulsatilla. The movements are mucous, frequent, and may be of any color. They may or may not be accompanied by gas. If gas is present it usually causes some discomfort, which is promptly relieved by a movement. I have repeatedly seen pulsatilla cut short a diarrhea after a few doses. It is not of service when blood appears in the stools, or when the movements are accompanied by tenesmus.

**Ipecacuanha.**—Raue says ipecacuanha and veratrum album are the two most useful remedies in the treatment of summer complaint. The indications for ipecacuanha I find to be frequent stools, pain about the navel, and vomiting. Ipecac and pulsatilla follow each other well. I use the third centesimal dilution of each in water.

Arsenicum is a valuable remedy when the patient is prostrated, restless, and has fever. Everything taken into the stomach is immediately vomited up. The patient is thirsty, drinking little and often. I use the third centesimal trituration. It will have to be given dry on the tongue if the vomiting is present, otherwise I prefer it in water.

Mercurius.—My preference is the corrosivus. That has marked tenesmus, bloody stools, and excoriation of the parts the discharge.

Raue gives the solubilis in his list of remedies, for tenesmus and frequent mucous stools.

Goodno recommends the dulcis, in the second decimal trituration, when the inflammatory symptoms subside but the frequent stools continue.

Cantharis is a remedy that may be called for in bloody stools with tenesmus.

Aconite is called for if the onset is sudden, pulse rapid, fever more or less marked, and if the patient is restless.

Belladonna is useful with high fever, flushed face, and the patient is drowsy.

Other remedies may be called for, but the above forms a good working list.



## DIPHTHERIA AND ITS TREATMENT.\*

BY BYRES MOIR, M. D.,

and

H. A. CLIFTON HARRIS, M. R. C. S., L. R. C. P.,

Physicians to the London Homeopathic Hospital,

Before the introduction of antitoxin, there seemed to be a considerable drop in the percentage mortality of diphtheria, but since its introduction the decline has been much greater. Thus in the report of the Metropolitan Asylums Board the percentage of deaths from diphtheria in 1889 was 40.74, and in 1894 was 29.29. In 1895, when the antitoxin was first adopted, it fell to 22.85, and since then there has been a steady fall, and in the last report of the Board for 1901 it had fallen to 11.15.

Among homeopathic remedies cyanide of mercury holds the

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first place. Though no routine treatment has been followed in the hospital, the cyanide of mercury has been used largely in excess of any other drug, and the local application which has generally been used has been insufflation with sublimed sulphur. In taking the ten years' work, the first table includes all cases from 1893 to the end of 1896. (In 1896 in only two cases was antitoxin used, both of which recovered.)

TABLE I.

Cases.	Cured.	Died.	Mortality.
1892.	9	5	44 per cent.
1893.	11	8	27 "
1894.	7	5	28 "
1895.	11	10	9 "
1896.	20	15	25 "
	58	43	25 "

The ages of these cases were as follows:

2 years and under.	5 cases.	5 deaths.
2 to 4 "	9 "	4 "
4 " 8 "	19 "	5 "
8 " 16 "	11 "	0 "
Over 16 years	14 "	1 "
	58 cases.	15 deaths.

Tracheotomy was performed in 12 cases. There were 8 deaths, 3 cases being moribund on admission, and all 8 of them were under five years of age, 4 being two years and under.

The first time antitoxin was used in the hospital was in a patient sent in by Dr. Roberson Day in 1896, who injected the serum before admission, and the case did well; since then its use has steadily increased, and latterly it has been used in all severe cases. The diphtheria cases are distributed in alternation to the different physicians, and all seem now to resort equally to it—thus carrying out the opinion which Dr. James Johnstone expressed in his paper on Serum Therapeutics, read at the Congress at Bath, viz.: "That the use of the anti-diphtheritic serum was a step in advance of treatment by the homeopathic remedy.". Meaning that while the similarly acting remedy, say mercuric cyanide, acted as a stimulus to the production of antitoxin in the system of the patient, it was better to have the antitoxin artificially prepared and introduced direct into the circulation.

In Table II is given an analysis of 148 cases treated, when the use of the serum became more general, and with a marked lowering of the mortality.

TABLE II.

	Cases.	Cured.	Died.	Mortality.
1897.	15	13	2	13 per cent.
1898.	53	47	5	10 "
1899.	24	20	4	16 "
1900.	20	20	0	0 "
1901.	17	16	1	5½ "
1902.	20	19	1	5 "
	148	135	13	8¾ "

During this time all but mild cases were treated with antitoxin, the figures being 89 cases with antitoxin, with mortality of 12 per cent., and 59 cases without antitoxin, with mortality of 3¼ per cent.

It is seen therefore that the mortality, which up to the end of 1896 had been 25 per cent., has in the last six years fallen to 8¾ per cent., while in the last three years in 57 cases there were only two deaths—one a child of ten months, and the other of one year and ten months, both requiring tracheotomy immediately after admission, and both might be put under the class of moribund on admission.

A great improvement is to be noticed in infants under two years old; thus before antitoxin was used there were 5 cases under two years, all of whom died; while there were 35 cases later of under two years of age, with four deaths.

In severe cases the antitoxin serum is injected directly after admission, in a dose of 2000 units, and it is seldom that a second dose is required. The sooner in the course of the disease that it is employed, the better the result, but benefit has been seen to follow even when administered a week after the onset of the disease. The most marked results are seen to follow in laryngeal and nasal cases. In a few cases rashes of the type of urticaria have been noticed, but no bad results of any kind have followed, and the cases of secondary heart failure which follow from the toxæmia have been less.

*Causes of Deaths.*—In 58 cases before antitoxin was used: Toxæmia, 5; heart failure, 3; pneumonia, 4; nephritis, 1; asphyxia, 1; moribund, 1; total, 15. In 148 cases since the

introduction of antitoxin: Toxæmia, 3; heart failure, 1; pneumonia, 6; asphyxia, 1; nephritis, 1; moribund, 1; total, 13.

In most cases where antitoxin has been used the homeopathic remedies and local treatment have been continued; and unless the cases are seen at the beginning, which is very rare in hospital work, the complications which arise give plenty of scope for the use of suitable remedies, and by this our death-rate should be lower than if antitoxin alone is relied upon. The writers of the paper, from their observation, are convinced of the undoubted efficacy of the antitoxin serum, and consider that every severe case should at once have the benefit of it. In this they are supported by Drs. Blackley, Washington Epps, and Roberson Day, whose remarks are added.

Remarks by Dr. Blackley:

In all cases where the characteristic bacillus is found to be present, or where the clinical stigmata are unmistakable, I would give the patient the benefit of the antitoxin injections.

Remarks by Dr. Washington Epps:

Of the beneficial action of antitoxin serum in diphtheria there can be very little doubt in the minds of all medical men who have many cases of this rapidly fatal disease to treat.

Whether it is advisable to use the serum as a routine treatment in all cases of diphtheria, mild and severe, is, I think, open to discussion. When the serum treatment was first started I was much opposed to its use, but when I saw the rapid improvement that followed its use in very severe putrid cases treated by one of my colleagues—a stinking septic nasal case, nearly moribund, in forty-eight hours almost out of danger—I felt it was my duty to give my patients the same advantage. From that time I have used the serum in all severe cases.

When, however, I get mild cases—true diphtheria as shown by the culture test—I then rely on merc. cyan., bell., phytol., etc., and local treatment by sulphur insufflation or perman-ganate of potash gargle, etc.

Remarks by Dr. Roberson Day:

In the year 1896 I first employed the antitoxin diphtheritic serum, and in 1896 and 1897, I recorded a series of cases I had at that time treated with the serum. I then spoke enthusias-

tically of its use, and I have since seen no reason to alter my opinion of its great value in all cases of true diphtheria. To obtain its full benefits it should be used early, when it will abort the attack. The case of T. B. illustrates this point. He was attacked with sore throat, and next day his mother asked me to see him. I found two patches of membrane, one on each tonsil, and at once injected the serum; and next day the patches were disappearing, and by 8.30 P. M. had entirely gone! I had a swabbing from the throat examined, and the Klebs-Loeffler bacillus was isolated, so that no doubt whatever could be entertained as to the true nature of the case. Here, then, was a case of diphtheria aborted in thirty-six hours.

The first case in which I employed the serum was a very severe one in which the naso-pharynx was involved, in a little girl of six and a half years. As soon as the injection was made symptoms began to ameliorate. Unfortunately, I did not use the serum in this case till the fourth day of the disease, when the poison had had time to thoroughly infect the system; hence, although the effects of the serum were marked, convalescence was slow and attended with various forms of paralysis.

A girl, aged twenty-one, was suffering from laryngeal diphtheria with no nose or pharyngeal complication. I injected the serum as soon as I was able, and at once admitted her to the hospital. She was in the hospital from November 22d to December 18, 1896—a short stay for such a grave condition, and I consider her recovery was due to the serum.

I always employ this serum in true diphtheria, at the same time giving the well-indicated homeopathic remedies as may be required from time to time.

I regard the use of the serum as now prepared, quite harmless, even supposing it has been used in a case which is not diphtheria.

This winter there has been an epidemic of diphtheria at a school, where two boys, patients of mine, from two different families, were subjected to the prophylactic treatment for diphtheria—that is to say, they each received an injection of the serum. They suffered no inconvenience afterwards, nor did they develop diphtheria.

Of all the many serums which have been lately employed in the treatment of disease, the anti-diphtheritic serum is by far the most perfect.



## A FEW OF THE RARER FORMS OF UTERINE HEMORRHAGE, AND THEIR TREATMENT.\*

BY WM. CASH REED, M. D.

Introduction: Hemorrhage due to (1) acute salpingitis; (2) one from of endometritis; (3) ulceration (not malignant) of cervix. (4) Ectopic pregnancy.

In presenting a few brief notes on some of the rarer forms of uterine hemorrhage, I will ask attention for a few moments, in the first place, to the commonly accepted nomenclature of the affection we are about to consider. I think the terms usually employed are very apt to be loosely applied, and when this is so, they fail to convey an accurate conception of the condition present.

Precision in diagnosis of the various forms of uterine hemorrhage has greatly advanced during the last twenty or thirty years, and especially is this case in regard to ectopic pregnancy and the so-called "malignant adenoma." Yet the nomenclature of the affection in general remains pretty much what it always was. Thus, you may very rightly find fault with the title of my paper—though it is in accordance with present-day medical terms—for uterine hemorrhage is surely the commonest of every-day vital phenomena, and is in no sense pathological. Nevertheless, under this title I speak of course of such as are.

To be brief, I would suggest that the terms menorrhagia and metrorrhagia be retained in their present application to well-known abnormalities of uterine hemorrhage occurring during the period of sexual activity, and that the word metrostaxis be used to cover all cases of hemorrhage from the genitalia which occur before puberty and after the menopause. Such are, of course, essentially pathological. The subdivisions of each group are very many and varied, but they fall into line the moment the radical idea of either is

\* Read before the British Therapeutic Society.

grasped. Sometimes, it is true that the terms may to a certain extent overlap, and to take an extreme case, that of ectopic pregnancy furnishes probably the best example. Here we have a combination of menorrhagia and metrorrhagia, in such bewildering confusion that I never see, nor hear of a case but the legal term "hotch-potch" comes to mind, so thoroughly expressive is it of a hopeless muddle. The uterine hemorrhage in these cases is "hotch-potch" indeed, though all the same sometimes a suggestion of order exists.

Let me now speak of the menorrhagia due to acute salpingitis. There are few things more likely to outwit the observer than the hemorrhage due to this, unless he be fully alive to its significance. Here is a typical case from my notebook. A single woman, aged forty, presents herself, stating that the catamenia was quite regular until eight weeks ago; since then bleeding has not ceased, though rest in bed has lessened its severity. The history shows that eighteen years ago the patient had a child. Examination under an anæsthetic reveals a retroflexed and retroverted uterus. The right fornix is obliterated; in other words, the concavity which should be present is replaced by a distinct swelling. In the left fornix the corresponding fallopian tube is distinctly felt. As to the pathology of the case it is doubtless this. A chronically inflamed fallopian tube has from some unexplained cause become the subject of an acute exacerbation, and what has happened is that a so-called "tear" of pus has dropped from the abdominal ostium of the tube into the peritoneal cavity, and has lighted up an acute, though probably quite localized, peritonitis. As to diagnosis, that has to be made mainly from an ectopic sac. Broadly speaking, the latter is of course unilateral, whilst the former is practically always bilateral. A minute search may be necessary to establish the latter fact, but the issue at stake not only warrants, but claims it.

The treatment is rest in bed, the warm douche, and the administration of our well-known and justly esteemed remedies, acon., bell., merc. cor., eupeion, etc., and it may be, and frequently is, necessary to employ a saline laxative.

Above all, the knowledge of what not to do is essential, viz., do not curette in cases of acute salpingitis, nor yet in cases of the chronic form when an acute exacerbation is present.

The number of cases of the nature described, though differing infinitely in character, in form, and in degree, is, at our dispensaries in Liverpool extraordinarily great, and I know of nothing much more difficult to decide than one's duty to the patient with regard to the vexed question of operation. Especially is this the case in those "border-land" cases where the risk of rupture is not perhaps great, but where "laissez faire" policy may be dangerous. The patient is perhaps young, she has one or two weakly children, and she has, as she says, "a good husband when not in drink" (sic), and here is the crux of the situation, she has to keep her home, going in spite of constant suffering and disability. The fallopian tubes are distended with pus, the broad ligament is crumpled and so is the uterus, and the latter is bound down by pelvic adhesions.

To be brief and to the point, I have at last brought my own views as to personal responsibility in these cases, into shape, and would thus outline them:

Give the patient a year to wrestle with the disease, during the whole of which time assiduously carry on treatment on homeopathic lines, and to a certain extent on local ones also.

At the end of this probation, review the net results attained, and act accordingly; but, may I add, on no account admit the rectitude of the policy commonly known as "sitting on the fence," for nothing can justify a medical man holding aloof from these cases merely as an interested and irresponsible spectator. Nature whose processes are mainly beneficent, at times, though still tending to the conservation of life, produces a condition of things in the female pelvis which it would have been infinitely kinder for the surgeon to have anticipated by radical operation.

(2) Hemorrhage due to one form of endometritis .

You will say at once that hypertrophy of the endometrium is not a rare, but a very common form of uterine hemorrhage. Quite true; hence I have restricted our view to one form only, and this, happily, a very rare one, at least in my own experi-

ence. I do not pretend to understand the causation of virginal endometritis, and have not yet come across an explanation which to my mind is wholly satisfactory. But the causation and the pathology also of the particular kind under consideration is understandable enough.

We have all seen uterine hemorrhage, metrorrhagia, in the otherwise healthy adult, due to the abuse of alcohol, but probably it would be less readily conceded that this cause may be equally true in the case of the comparatively young virgin. But I have seen it, and the hemorrhage may be practically the only sign present of secret Bacchanalian worship.

(3) Uterine hemorrhage due to ulceration of the cervix which is not malignant. I do not mean an "erosion," nor yet an "ectropium" of the cervical uterine mucous membrane, not, that is, anything composed of glandular elements, but of something consisting of granulation tissue.

Such a case is illustrated by the following: Mrs. M., aged forty-six, with a grown-up family, married recently a second time. She complains of irregular uterine hemorrhages and dysuria, "never feels as though bladder properly emptied." On examination there is a deep cervical tear, the cervix itself is notched and nodular, and the examining finger on withdrawal is covered with blood. On exposing the cervix with a Sims' speculum, there is seen on its anterior segment a large, deep, and angry-looking, bleeding ulcer.

The symptoms in this case were, on the one hand, strongly suggestive of a fibroid, and on the other of malignancy, but neither existed. Had inquiry been made as to whether coitus was followed by hemorrhage, the answer would doubtless have been in the affirmative. Thus the likeness to malignancy would have been still further emphasized. The treatment consisted of amputation of the cervix, by Martin's method, and cure naturally resulted.

(4) Ectopic pregnancy. Time will not permit taking much more than a glance at this happily unusual form of uterine hemorrhage. But what little will be said is the outcome of contact with many cases. May I refer back to what I ventured to call the "hotch-potch" character of the hemorrhage, it being neither menorrhagia nor metrorrhagia, but a com-

bination of both, beginning, however, generally with an attack of the latter.

The blood is usually described as "tarry," but I prefer the term "dragon's blood," for the former I have seen in some cases of long-standing pyosalpinx, presumably in that stage of development or rather of subsidence, when a hydrosalpinx is in process of initiation. The history is of a "missed period" followed by a hemorrhage, something like that shown here. Thus pregnancy is suggested, but the uterus is found to be empty.

There is probably an "abdominal crisis," *i. e.*, pain, vomiting, and collapse, and a rapid and soft pulse, and facile princeps, a lump behind the uterus. A word as to the consistency of the "lump" or blood sac. I have felt it as hard as a cricket ball, and as soft as a child's India-rubber ball, and so fluctuating that one could imagine one's self during examination, to be squirting out the fluid at the hole of the latter as a child does; or the blood sac may be hard at one time and soft at another. In other words, consistency depends upon its age.

There are two points with regard to the subject under review which may be new to some present; one I have only seen within the last few weeks, and it is this. An ectopic pregnancy may exist without any uterine hemorrhage whatever, other than that which is normal; in other words, extra-uterine pregnancy may be present without any interruption or interference with normal menstruation. The second point is: uterine hemorrhage highly suggestive of ectopic pregnancy sometimes suddenly ceases, so that one's suspicions as to the real condition present tend to be lulled. To be thus taken off the scent is unfortunate for one's reputation, and may be disastrous to the patient. For an explanation of the cessation I have referred to, we are indebted to Professor Briggs, of the Hospital for Women. It is obvious, as he points out, that blocking up the uterine end of the fallopian tube in a case of tubal pregnancy must be followed by a cessation of uterine hemorrhage externally. This blocking up, which I have many times been able to verify, is brought about by one of three conditions: (1) Cicatricial tissue; (2) Organized blood clot; (3) Twist of tube.

**AMERICAN INSTITUTE.****Convulsions During and After Labor.**

F. W. Hamlin, M. D.: In the presence of albumin in any appreciable quantity, and especially if it has been present during the whole period of pregnancy, we have one of the most significant danger signals we possess, and I do not agree with the opinion that has recently been expressed that many of these cases come on out of a clear sky, but that there has been albumin in the urine for some time before convulsions come on. I believe that if examination of the urine is made some time before labor that albumin will be found.

As for treatment: I use viratrum viride, in the form of Norwood's tincture. I believe it to be of exceeding great value. We use it continually in our work at the Flower Hospital. We hold the convulsions by chloral, but do not push it to any extent. Morphine is not pushed to any extent. The action of the toxins is overcome by hot saline injections, and the skin stimulated by the hot pack.

B. G. Clark, M. D.: I have a word to say about the use of tea by the pregnant woman. I have been led to believe from observation that the large amount of tea often drank by the pregnant woman has a tendency to diminish the amount of urine. If tea is prescribed, the amount of urea can often be increased without any medicine. I have often given thea as a homeopathic preparation of tea. I think it is one of our best prescriptions. I have a case in mind: A woman at six months showed the normal amount of urea, but at the eighth month she was taken with convulsions, and in about three hours she was delivered. The convulsions continued all this time. Examination of the urine showed a high amount of albumin with diminished solids. That was about four o'clock in the morning. When I saw her she was unconscious. I think the remedy prescribed, aside from the chloroform—she was under its influence most of the time—was aconite. At 9 A. M. I

\* Discussions stenographically reported.

commenced to give her carbo veg. 2x. In a little while she went to sleep, and when she woke her condition was normal. I was first led to give carbo veg. in puerperal convulsions, but have since given it to children in convulsions following vaccination, and every one of those cases was cured by carbo veg. It was an indicated remedy. Thea did not seem to help, and the symptoms led me to give carbo veg. I believe thea is good for the remote effects of vaccination, but for the acute effects I believe carbo veg. is best.

B. H. Ogden, M. D.: There are to my mind a good many points to which I as yet put a question mark. In the first place, I am sure that the exact cause of puerperal convulsions is not known. It is not a uremia. It is a toxæmia, but where the toxæmia de-exact cause of puerpural convulsions is not known. It is not a uremia. It is a toxæmia, but where the toxæmia develops, whether it is from imperfect action of the kidneys, whether it is a poison developed in the placenta, what it is we do not know. It is manifested by a failure to eliminate the toxins, it may be, by the kidneys.

In the treatment of this condition, one of the first indications I think is to increase elimination. We can help to do it with our homeopathic remedy, but we can also do it by various adjuvants. Give remedies that will increase the action of the skin, and packing in hot packs will help. We must give great attention to elimination by every known means, as well as to the homeopathic remedy.

Another question coming before us prominently in this connection it, whether the uterus shall be emptied or not; and I still put a question mark to that point. It is my belief that we should empty the uterus. We should allow the child to become as much developed as we can, and if the woman can go on to term, why so much the better; but if the condition is getting the better of you as shown by the urine, it seems to me that we must empty the uterus. I believe that this is not altogether a disease of the kidney.

As to the use of veratrum viride, I have had good success with it. Another thing I will speak about, although some

may hold up their hands in horror, and that is bleeding. I had a case where the urine showed a large amount of albumin, and strange to say, not very much diminished urea, but very much diminished solids. I immediately began procedures for eliminating, but within forty-eight hours she had two convulsions, and I immediately emptied the uterus. She was unconscious the next day with a temperature of 107°. I thought the woman was dying and they called a minister, and I told him she would probably die before the day was over, but she did not. I drew off from the veins of the arm two pints of blood, and then substituted for this normal saline, also put her in a cold pack, and this seemed to immediately bring about an improvement, and within twelve hours from that time she became conscious, and when I left her that day I had hopes of her recovery. It seems to me that in this case bleeding and putting in the normal saline was of direct benefit, also elimination through the skin and reduction of the temperature by the cold pack. Of course we need to be careful how we use this adjuvant. The indications for the bleeding is to dilute the toxins and to empty the veins. In this case the face was almost purple.

I generally use high enemas for elimination from the bowels. Sometimes calomel, which I think is one of the best. I use it in one-tenth grain to one-quarter grain tablets until the desired action is produced. I use it for the mechanical effect. It is not homeopathic or allopathic. It is mechanical. Croton oil is used for a similar reason and is more rapid in action.

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Florence N. Ward, M. D.: I would like to speak of a certain symptom which I have noticed in puerperal convulsions, and that is, loss of memory. I have observed this in many cases, loss of memory preceding the attack for some time. One case I had had just before I came here. A woman reported at a clinic about eight months pregnant. On questioning her we found she had cramps for twenty-four hours. We immediately sent her to the sanitarium, and I saw her in the evening, and she was delivered of her child at one o'clock in the morning. She

then went on normally in every way, until twenty-six hours after she was delivered she was seized with eclampsia, and went on steadily with convulsions for about twenty-four hours, and then remained in coma for twenty-four hours. She then awakened and recognized her sister. We questioned her as to what she could remember and she could remember nothing that had occurred since early Tuesday afternoon when she was in the clinic, and she had been at the sanitarium, had been delivered, but could remember nothing of what transpired since she was in the clinic. She said the last thing she remembered was that she stepped off the steps at her home to go somewhere. I think this is an interesting point from a medico-legal standpoint.

Speaking about cathartics: I always used croton oil, putting it on the back part of the woman's tongue. In the above case the woman had been neglected, and we secured very free cathartics, which I doubt if we could have secured in any other way. We were obliged to use six drops of croton oil before we obtain any response.

I think one of the most critical points we have to decide in these cases, is, whether to empty the uterus or not. I think the best way is to try for elimination. If you can start catharsis, and obtain improvement, well and good; let the uterus alone; but if from catharsis you get no results, then you must resort to mechanical aid.

Another point is when to use veratrum viride. In the case referred to I think gelsemium came in very much better. In sthenic cases I think veratrum viride is better. When there is a very full pulse, I think gloinoine is better.



Dr. Prior: I had a case of normal labor with no unusual symptoms, but twenty minutes after the delivery of the child she had pain, and while proceeding to the after-birth, she had immediately convulsions. She had convulsions all that night until the morning. I gave her gelsemium, belladonna, veratrum viride, and several other remedies, and not one of them effected any good whatever. I then gave her hyocyamus and she did not have another convolution, and as Dr.

Ward has just mentioned, she recalled nothing about it whatever. The hyocyamus certainly cured the convulsions.

D. A. Foote, M. D.: I also use croton oil, but I usually dilute it with olive oil, and then add more croton oil if necessary.

It seems to me that when a patient is in convulsions you are wasting time in giving a remedy at once. I doubt if a patient is able to absorb remedies while she is in convulsions, so that the first thing to do, in my opinion, is to administer chloroform, then give croton oil, two or three drops on the back of the tongue; then put the patient in a hot pack and use the saline solution, either as an enemata or subcutaneously. I would then give veratrum viride, and I would give it in fifteen drop doses, if necessary, subcutaneously, as that is allowable. Then if the convulsions recur I think that is the time to use chloral. Now these are desperate cases and they will get away from us unless these remedies are used. Then later you can use the indicated homeopathic remedy to clear up the remaining symptoms.

Geo. R. Southwick, M. D.: I will refer to points that I think might be helpful. First, the use of large doses of morphine, pushing it to the physiological effect at least, the idea being to relieve by reflex irritation the condition which produces convulsions. This method of treatment has been adopted in Dublin, and is a fair representation of modern English practice, and is the practice which is largely being followed in London, and it is claimed, with very excellent results. The treatment consists in administering not less than 1-4 grain hypodermically in one dose, doing it immediately. The patient is then put into a hot pack, and forcibly delivered, unless the cervix is sufficiently dilated to use the forceps. I am well aware that some do not believe in this, but I feel that the experience of these large maternities in Dublin and London has been so good, results so excellent, that they have finally adopted it as one of their chief methods of treatment, and the fact that it has been taken up by such conservative obstetricians, should make us think it is worthy of consideration.

Another method is used in Germany and to a lesser extent in Vienna and also in Italian practice, and that is, the method of rapid dilatation. The dilator consists of sometimes four, sometimes six branches, powerful enough so that the cervix can be expanded in fifteen or twenty minutes to its full dilatation, allowing the child to be delivered with forceps immediately. This method has created a very favorable impression. Many operators whom I know personally advocate it as being very valuable.

Gilbert Fitzpatrick, M. D.: If eclampsia is a toxæmia, morphine would not be indicated by any circumstances. I spent six weeks in the Rotunda Hospital, and they were then using the eliminative method, depending to quite an extent upon a large amount of normal saline, and they were meeting with such wonderful results that they were much impressed with it, and beginning to give up the idea of morphine treatment for eclampsia. Eclampsia is certainly an intoxication, and we should increase everything that will increase the elimination of waste products, and we know that in this condition it is impossible to get a diuretic into the patient quick enough, unless it is salt solution, and this will increase elimination very rapidly. I believe that the bag should be suspended about four feet. Croton oil is very effective, and operates very quickly. Then, too, the pores of the skin should be well opened by the action of the hot alcohol pack, but the morphine idea I am decidedly against, because I have seen cases in which it did harm.

F. D. Worcester, M. D.: I am first, last, and all the time for the salt solution. Since beginning that treatment I have never lost a case, and I have had some serious ones. I believe where control by catharsis and elimination is impractical that it is best to empty the uterus, and immediately use the saline.

#### **Early Symptoms and Diagnosis of Pregnancy.**

Geo. R. Stearns, M. D.: We should impress upon the family of the individual coming to us for examination, our helplessness during the first two months. Very frequently after miss-

ing one menstrual period the individual will come for examination, and want to know exactly and positively whether pregnant or not, and almost the sex of the fetus. I think it is well to impress upon the applicant that we cannot give an opinion in the first two months, at least.

There is one point which I have come to look upon as distinctive and almost diagnostic. It is more marked in the later months, and that is the peculiar change in the physiognomy of the mother. Just what that change consists of I do not know. I have looked into the various authorities, but have not seen any mention of it. It seems to me a change like that observed in a man after his mustache has been shaved off. There seems to be a thickening of the upper lip, or it may be the alæ nasæ; I have not decided which. I have made up my mind in such cases that they were pregnant, and by subsequent questioning have found that such was the fact.

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Gilbert Fitzpatrick, M. D.: One point I would like to mention is the presence of colostrum about six weeks from time of last menstruation, especially in primipara. By gently massaging the breast the colostrum will show itself.

#### **The Best Technique for Immediate Repair of the Perineum.**

D. A. Foote, M. D.: I wish to discuss the aseptic care of the perineum after rupture. Just the day before I left home I removed the stitches from my 524th case of confinement. In most of my cases I use forceps, and in most of the cases I have lacerations, and I have yet to have, in those 524 cases, one drop of pus or one septic case. That is due, I think, to the fact that I perform an operation in an obstetrical case with just as much care as I would in laparotomy. Everything is aseptic from start to finish, and the application of the perineal pad is changed every two hours, under as strict antiseptic precautions as you would dress a wound, and I assure you that the statement I have just made is absolutely true, that I never had a drop of pus nor have had a septic case. I credit the result to thorough antisepsis. I have my nurse have her bowl there in which she immerses her hands and keeps them constantly

aseptic throughout the entire case. She is instructed that every time she makes a change of the pad, she is to go through the same process—and she does it. I believe that the reunion of lacerated perinei is the rule. I believe that a great many cases unite where no stitches are taken; where the laceration is not severe. I cannot believe that Nature leaves us in the lurch in those cases.

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W. E. Green, M. D.: I want to compliment Dr. Foote on his peculiarly good results in asepsis in obstetrical work. I cannot tell you how much the atmosphere about Omaha has to do with the five hundred and twenty odd cases without a drop of pus; but in my country, and I believe that is true in regard of surgeons generally, we get no such results as he speaks of. Now, do not understand me to be casting any insinuations at all, because I believe every word you say, Dr. Foote, but the time has come when the laity demands of the physician more care than we have hitherto bestowed upon the cases. If a physician leaves his obstetrical case without repairing these injuries, he is censured by the friends of the family. They know that those cases should be repaired. They know that other physicians repair them, and they know that good results follow those repairs, and they are frequently saved from a secondary operation. It is very becoming in the obstetrician, not only to go prepared to deliver his case with instruments, if necessary to save the suffering of the mother and prevent the death of the child, but it is also as necessary for him to go prepared to handle these cases in a thorough surgical manner. An obstetrician should not only be a physician and a good obstetrician, but he should be skilled with surgical knowledge as well. There is really more depending upon the obstetrician than upon any other specialist in medicine. Every young physician should be taught that the very first case which he has in obstetrics may not only be a complicated case, but may be one that demands the highest skill at his hands. Therefore it is more necessary that the young man should go out well versed in obstetrics than in any other department of medicine. In my obstetrical work I make it a point always to employ trained nurses. I make a demand

upon my patients that they must have a trained nurse, otherwise I tell them, "I will not attend your case." I have that nurse prepare my obstetrical case the same as though it was going to be a surgical operation. I have her shaved, and scrubbed, and rendered as nearly aseptic as possible. We all know that we get about twenty-five or thirty per cent. of tears in primipara, and those tears should be repaired at once. In the first place you have devitalized tissue, you have ragged tissue there, and that wound must first be rendered clean-cut and free from that devitalized tissue. After cleansing, the patient is put on the table. I then take my scissors and pair of forceps; I have an expert anæsthetizer at hand. There is nothing left out of these cases to insure success. I then cut away all jagged and devitalized tissue. I use catgut sutures. I never could see the necessity of putting in stitches of silk that had to be removed later, and thus give the patient a great deal of pain, because catgut is absorbable, and is absorbed in the tissue and will answer the purpose. I close up my muscular structures with buried sutures, then I close over this with superficial stitches and that will hold them in position until they unite.

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E. E. Allen, M. D.: I want to say a word about the repair of the perineum. After thoroughly cleansing the parts take a long piece of gauze and pack it carefully around the cervix and keep on packing until the parts behind the laceration are covered, to forbid the flow of blood, and then you will have a clean surface to work over. The first stitch should be made with catgut, and should take the mucous surface at the top of the wound, on the right side, taking in all tissue coming out on the other side. No exposure of the needle from its entrance until its exit from the other side. Then the next stitch, coming toward the front, and so on until you have placed three or four stitches. Then tie your mucous stitches at the top edge of the mucous surfaces adjoining the cuticle. Take your next stitch through the floor of the wound, through the skin surface with silkworm or silver wire; then close up the wound; remove the tampon, irrigate and repeat the irrigation every day or every other day, to keep the parts clean.

L. L. Danforth, M. D.: The welfare of our patients depends upon the thoroughness with which antiseptic conditions are obtained; when we perform this difficult operation. I do not think it a very simple one; I think it is a difficult one. Imagine the circumstances in which this procedure is undertaken. After a long night of suffering on the part of the patient, and the wearisome labor of the doctor as he has tried to cheer his patient and encourage her that all was right, and then after the close of the labor be compelled to perform this operation. Everything is dirty and filthy, and he undertakes to perform a perfectly aseptic operation. If he would do the operation as it should be done, he must have everything ready, and must have provided himself with an obstetric bag with every detail for aseptic work. I need not mention these details; we all know them, and should apply them more frequently than we do. There seems to be some difference of opinion as to the kind of sutures most desirable. I am, most emphatically, in favor of silkworm-gut. For buried sutures catgut will answer every purpose, but I am afraid to trust it entirely as it is absorbed too quickly, should pyogenic infection ensue in any case, and is not satisfactory in my opinion. I have learned from distressing experience how unsatisfactory catgut is, and I have come to depend upon silkworm sutures altogether. For the more superficial or those stitches high up in the vagina I use catgut, but for the purpose of support the silkworm suture is eminently the best. These are more painful to the patient and require more care in removing, but I think we are justified in resorting to them.

B. H. Ogden, M. D.: I would like to add my testimony to that of Dr. Danforth's about silkworm-gut. I must say that I strongly approved of it. I have seen many failures from catgut sutures absorbing too quickly. I believe it is important in every case in examining for lacerations, to put one finger in the rectum, in order to push forward the posterior wall of the vagina that its condition may be noted, and many times you will find a laceration which externally does not show at all.

L. K. Maxwell, M. D.: I want to speak from the standpoint of the country practitioner. Many things suggested as easily

done in the city are not so ready of accomplishment in the country. I feel that asepsis is absolutely essential. With the city physician it is easy to call in assistance while in the country you may have to send miles for help. Often in these cases we find the tissues benumbed from pressure at the time of delivery, and if you have previously given an anæsthetic, the patient's condition is such that you can perform all the operative work necessary without any further anæsthetic. I invariably examine my patient and note what is likely to be necessary to use, then I have every instrument for which there is possible need, thoroughly sterilized. In many of these cases you do not, nor can you get, skilled assistants, and you have to depend on those who are not aseptic and whom you cannot impress with the value of strict asepsis. Under such circumstances I invariably do all the work myself, handling everything that must be touched, the patient as well. I think in Dr. Foote's particular work, the large number of lacerations he mentions is either a reflection on Dr. Foote's work or on his forceps. I feel that with properly constructed forceps and the proper use of them there is no more reason for laceration than in normal delivery. With proper opportunity for delivery, laceration (that is one requiring surgical treatment) is not so common as has been mentioned by others.

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Wilson A. Smith, M. D.: It is very easy to stand within the shadow of a great hospital, with its corps of trained helpers, and say: "I will not touch this case unless you secure a trained nurse." But go, as I have gone, out on the country roads, knee-deep in mud so thick and sticky you must go horseback because a buggy cannot be pulled through, out eleven miles into the country, eleven miles from any sort of skilled assistance, into a house with but one bedroom and one living-room, and find the woman in labor; would anyone then say: "You have got to have a trained nurse or I will not touch the case." The man who has to ride horseback has these cases of obstetrical work as well as you in the city. He, too, is anxious to do good work—and within limitations he does it. The pioneer doctor, who stands like a sentinel on the border-land of civilization and who rises to meet every occasion, whose

genius leads him out of almost insurmountable difficulties, is entitled to great respect, and a greater homage is due him than to his city brother whose work is done while surrounded with every convenience known to medical science. Then, too, when you hear of cases wherein the conditions are decidedly unsanitary, and yet the patient recovers, and has perfect health thereafter. When you see this and note the fact that another patient, surrounded by all the skill you may wish for, with trained nurses, and perfect asepsis, and then a confinement followed by infection and death, you feel there is still something else besides infection which lands one woman in the cemetery and does not affect the other.

#### **Management of the Placenta in Advanced Extra-uterine Abdominal Pregnancy.**

George R. Southwick, M. D.: Those who have had opportunities for observing the condition of the abdominal cavity in advanced extra-uterine pregnancy, that is, at or near full term, cannot fail to remember the unusual anatomical conditions which are usually present. Perhaps the most characteristic of all, the one which we dread most to see, is the peculiar anatomical formation when the contents of the abdomen are displaced, and the placenta is developed in a manner which is entirely foreign to our usual ideas and conceptions of the growth and formation of this organ. Instead of having a compact mass of tissue, which we ordinarily see, we find the placenta spread out usually over a large area. The placenta is thin, and in a general way about twice its ordinary diameter. Its position and relation to adjacent structure must necessarily be varied. It may be attached and limited in its attachment to the broad ligament. It may be within the broad ligament. It may be in the free peritoneal cavity. Usually we find it spread out over the intestines and then its attachments are wide-spread. Adhesions are invariably present and as a consequence distended sinuses, full of blood, which are sure to cause severe hemorrhage the moment they are touched; the placenta, too, being attached to the intestines, the peritoneum, or I have even seen it attached to the abdominal wall, and

with the very first incision through the abdominal wall the placenta is divided immediately, causing profuse hemorrhage. We have here no interlineal contractile structure, and the least interference with the placenta means hemorrhage of a severe type.

So in the treatment of these cases one of the first things with which we are always confronted is the management of the placenta, and the management of the placenta must depend largely upon the anatomical conditions which are present. If the placenta is so attached that we cannot place ligaments beneath it, as for instance, attached to the intestines, the placenta is the thing then to be always left alone, for interference under such conditions, means hemorrhage which we cannot control, even by gauze packing. This is because the blood-vessels are so large. The smaller blood-vessels can be controlled by pressure and packing, but with the large vessels it is a dangerous expedient. Really the first question demanding consideration is one of anatomical conditions. If we have a sac so situated that it can be removed, we can control the hemorrhage by suturing the opposite broad ligament, dividing it down by progressive ligation and division, dividing the uterus at the neck and across, underneath and opposite the broad ligament and tying the uterine artery there; or if it is so situated that we can tie the uterine artery external to the brim of the pelvis we may succeed in doing this. But in my opinion we should never attempt to touch the placenta until all conditions are fully known.

If found practical to remove the sac, it is better judgment to do so and leave nothing to decay, to degenerate, or to be the source of septic infection. If the anatomical conditions are such that we are liable to face severe hemorrhage in so doing, and possibly fail in the attempt; then I believe the better practice to follow is that of simply suturing the sac to the abdominal wall, shutting off the placenta and its attachments from the peritoneal cavity, draining from above or below, and in time, with the inclosure of the sinuses the placenta will separate and come away—sometimes in large pieces, sometimes in smaller, but it will come away and the sac gradually sink down, its cavity become obliterated and the patient

recover. Convalescence is apt to be protracted, but better a protracted convalescence than the danger of uncontrollable hemorrhage.

These cases are rare, and they are difficult to diagnose. It is very difficult sometimes to tell the difference between these and cases in which we suspect, for instance, a retroverted gravid uterus in which the cervix is usually carried high above the symphises pubis and the fundus of the uterus is thrown up into the abdominal cavity. It seems to me a safe rule in practice that where there is any doubt it is well to give the patient the benefit of the doubt. It is a very simple thing to insert the hand into the vagina—the patient, of course, being under ether and everything being made ready it is an easy thing before the abdomen is actually open to insert the hand and find out the position of the cervix, pulling it down, if necessary, with the forceps, to ascertain the depth of the uterine cavity.

Now, in extra-uterine pregnancy, as we know, the uterine cavity is increased in length, sometimes materially so, both by enlargement of the uterus up to a certain size and also by traction upon it. But we do not get anything like the increased depth of the uterus to correspond with what should be the depth at full term uterine pregnancy. So that the depth of the uterus is one diagnostic point. It is also possible in some cases to carry the forefinger well up into the cervical canal, and feel by actual touch, whether the presenting part can be felt within the cervical canal.

The whole hand must be carried into the vagina: but it is better to do this than to run the risk of a mistake in abdominal section. Hence I believe it is wise to make sure of our diagnosis, if at all possible, before we open the abdominal wall.

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B. H. Ogden, M. D.: I wish to report an experience in consultation with another physician, because it comes but once in a lifetime to many of us. This case was almost identical with the one reported by Dr. Danforth, with the exception that in this case there was no gestation sac. The difficulty of diagnosis was great. The abdominal wall was exceedingly thin, like tissue paper, and the foot of the fetus could be easily

picked up through it. This child was alive, and we decided to secure its birth by celiotomy while living. The operation was fortunately one of not great difficulty, because the placenta was attached to the left broad ligament and the sides of the uterus almost exclusively. No difficulty was met in getting the ligature entirely around the placenta, and the child was delivered and hemorrhage controlled without trouble. The abdomen was immediately closed, and the woman made an uneventful recovery. The child did not live more than three or four hours and was deformed, both feet being talipes varipes; one side of the head was misshapen, due, undoubtedly to its lying in the abdominal position. The child's deformed condition and early demise confirms the observation of many authorities—that these children do not live long and are usually deformed. Why this child did not live I am unable to say. It breathed normally, but it seemed most fortunate in this case the child died.

The danger of hemorrhage from operation, while the child was living, did not seem to have been increased in this case, but in many cases there might—indeed does exist—great danger and a hemorrhage may result most difficult of control. It would seem to me from this experience while we were most fortunate, perhaps it would be better to wait until the child died before the operation is proceeded with. In this case, as evidenced by the history, there was no immediate haste. The woman had a gestation period of severe pain. About ten or twelve weeks following conception she had an attack of severe abdominal pain, and from that time on through the remaining twelve weeks following conception she had an attack of severe type, but so much that it was necessary to give some form of opium to alleviate the suffering.



Dr. L. L. Danforth: In reference to the question of waiting, I believe the consensus of opinion of our best authorities is that it is better to wait, letting the child die, because of the probability that the child will not live long, and that it may be deformed. After death the thrombic formation exists making hemorrhage much less dangerous. I should advise waiting unless there is some

necessary condition present demanding immediate operation, as it was in my case—the patient being in bad condition, temperature increasing, septic conditions present, and the child was dead, and had been dead for some time, so we had to act at once.

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## Current Comment.

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J. W. Bullard, M. D.:

While spending a few days last spring with Dr. Hirst, of Philadelphia, it was my good fortune to see him and his assistant each do an operation at the Howard Hospital for *prolapsus uteri*. Dr. Hirst remarked to me that if he had learned nothing else during his last trip to Europe he was amply rewarded in learning the technic of this one operation. I was so favorably impressed with it that I determined to employ it at the first opportunity after reaching home. On the 20th day of May last, I was called to do a hysterectomy on a lady, 74 years old. She had been a sufferer from prolapsus uteri for the past twenty years. After examining the case I advised this operation instead of a hysterectomy, which I proceeded to do as follows:

The patient was anæsthetized with chloroform, and placed in the dorsal position, with the thighs flexed in the usual way. After proper cleansing of the vagina, the cervix was seized with a volsella and drawn outwards and backwards so as to put the anterior vaginal wall on the stretch. With a sharp knife, an incision was begun just beneath or posterior to the meatus and carried outward in a curved line to the lateral border of the anterior vaginal wall, from whence it was carried downward and across to a point at the cervico-vaginal junction just anterior to the cervix; a similar incision was brought down from the same point along the other side to join this one, describing almost a complete circle, only slightly oval in the direction of the axis of the vagina. This incision was carried down to the connective tissue between the vaginal and bladder walls. An incision was then made completely

around the cervix, just below the lower, or cervical border of the former incision, so as to leave a strip of mucous membrane between the two, the depth of the incision for the present being only through the mucous membrane. The upper, or urethral end of the circumscribed anterior vaginal mucous membrane was then seized with a tissue forceps and, with the cutting edge of the scalpel hugging the flap, rapidly dissected off. This denudes nearly the entire anterior vaginal wall.

The cervix was then amputated as follows: The original incision was deepened and the cervix was pulled out more and more, till, when the amputation was completed, nearly the entire muscular tissue of the cervix was gone, the cervix being funneled out. This would be hardly admissible in a woman still in the child-bearing period of life. The cervix was then closed in the usual way, using chromicized catgut for sutures.

The manner of closing the anterior vaginal denudation is the important step in this operation. Cumolized, or if it is desired that it last longer, pyoktanin or chromicized catgut may be used. In this case chromicized gut was used as follows: A medium-sized, full-curved needle was threaded with No. 1 chromicized catgut and, beginning by entering the mucous membrane at one side of the urethral end of the denudation, the needle was brought out in the raw surface short of the center of the denudation, and entered again just past the center so as to leave the central portion without the grasp of the suture; it is then brought out through the mucous membrane on the other side of the denudation. This is a continuous suture and was carried down in this way as far as the mucous membrane of the two sides could be made to easily approximate each other; when this could no longer be easily accomplished, the same continuous suture was made to catch the denuded surface on either side of the median line, leaving half an inch between the bites of the needle. This line of sutures was carried to the cervical end of the ovoid when it was possible to close the lower end of the wound in the same manner as above, but at the central part of the denudation it was necessary to adopt the same form of buried suture as before. With the next tier,—the same suture being used,—it was possible to coaptate the mucous membrane of the two sides.

This builds up a strong posterior wall for the bladder. Sometimes it will be found necessary to push the cervix back into the vagina before it is possible to bring the mucous membrane of the two sides together.

The last step in the operation is the repair of the pelvic floor, which may be by either a Hagar or a modified Emmet perineorrhaphy. In this case the former was done. The main sutures should be of silkworm-gut, made to catch the levator ani, brought out through the cutaneous surface and shotted.

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S. W. Allworthy, M. D.:

On April 27th I attended a patient who was delivered of a healthy male child. On examining her breasts I found the left mamma much larger than the right, with a well-developed nipple and areola in the usual central position, and about two and one-half inches directly underneath a second smaller nipple, with a dark pigmented areola. Colostrum with milk was easily expressed from both nipples, and they became slightly erect with mechanical excitement. The patient informed me afterwards that the lower nipple drained the milk from the upper, and in consequence caused some little inconvenience. It would appear, therefore, that there were not two separate and distinct portions of *the mammary gland* for each, but that the lactiferous ducts of the whole gland intercommunicated with both nipples. A supplementary nipple of small size is not an uncommon anomaly, but the development in this case was, I believe, more perfect than in those usually met with.

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H. G. Partridge, M. D.:

This case of *submucous fibroid, complicating labor and the puerperium, with retained placenta*, is reported because it presented several unusual features, and because it illustrates in a remarkable degree the *vis medicatrix naturæ*.

Mrs. F. H., secundigravida, aged twenty-seven, American by birth, was admitted to the Lying-in Hospital, April 15, 1902. She was herself uncertain as to how far the pregnancy had advanced, but from palpation it was estimated to be in the eighth month. She was not in labor, but was having considerable

abdominal pain, as had been the case during the few weeks immediately preceding entrance. Five days later, April 21st, labor began at 2 P. M., and progressed as usual until 4 A. M., on the following day. At that time the os was found to be fully dilated, and an arm was felt presenting and prolapsed, enclosed in a pouch of the membranes, which had not ruptured. The fetal heart was distinctly heard in the midline below the umbilicus.

Ether was at once given, and the arm replaced with a considerable degree of ease. No sooner had this been done, however, than the left foot and the cord presented, and partially prolapsed into the vagina. An attempt was made by combined internal and external manipulation, to convert the presentation into that of the head. Finding that this could not be done, a foot was brought down and the buttocks and shoulders delivered. There was difficulty in extracting the head, and it was only after manipulation and external pressure, practiced for a considerable time, that I was able to deliver it. I did not then recognize the cause of this difficulty, and was rather surprised at it, as the child was small, weighing only five pounds, two ounces.

'As soon as the child was extracted the uterus contracted firmly, but there was a profuse hemorrhage of nearly three pints, and it was only controlled by packing the vagina and cervix. The hand introduced into the cervix came immediately upon a tumor as large as a fetal head, springing from the left uterine wall. This seemed to completely block the cervical canal. It was very hard and non-fluctuating, and it was from its surface that the hemorrhage came. It was evident<sup>y</sup> a submucous fibroid, and it was then apparent why there had such an unusual and profuse hemorrhage immediately after the birth of the child, and before the placenta had been expelled. After a delay of twenty-five minutes and after Credé's method had been unsuccessfully practiced, it appearing that the tumor so obstructed the cervical canal as to cause a permanent retention of the placenta, the hand was introduced and the placenta removed manually. It was not adherent, but was removed with some difficulty past the tumor. The uterine canal curved from right to left over the tumor, and the pla-

centa was situated in the extreme upper part of the canal, resting like a cap on the upper surface of the growth.

It appears that we had in this case a submucous fibroid situated in the upper uterine segment. For this reason it did not obstruct the delivery of the body and shoulders, but when the uterus had contracted, after these parts had been delivered, the growth was then brought into the pelvis, and thus caused the difficulty in the extraction of the small head. It is fortunate that it did not reach lower in the pelvis than it actually did, else the delivery of the aftercoming head might have been impossible. The location of the tumor also caused an almost absolute mechanical retention of the placenta.

The after history of this patient was almost as interesting as the part already related.

During the delivery the pulse remained fairly good, but on the following day it failed suddenly several times from no apparent cause, as there was no lesion which could be detected. After this day, however, it remained good.

During the next few days the chief feature of note was the small amount of urine passed, varying in amount from seventeen to twenty-four ounces in twenty-four hours. Examination showed it to be normal, however, and in six days the amount had increased to fifty ounces.

On the seventh day, there was for the first time some odor to the lochia, and the abdominal tumor seemed to be slightly larger than before. From this time, too, the temperature was more or less elevated, and in a few days it became remittent, reaching 103 degrees in the evening. She had several chills; there was a free discharge of foul-smelling pus from the cervix, and her general condition became serious. During the last few days of her stay in the hospital, the tumor decreased considerably in size.

On May 10th she was transferred to the R. I. Hospital, and by courtesy of Dr. G. W. Porter, whose patient she was there, I am able to give briefly the further history of the case.

Examination of the discharge from the cervix showed a marked streptococcal infection. The patient was etherized and curetted, but no attempt was made to remove the uterus because of the patient's desperate condition, and because of the

fact that the tumor completely filled the pelvic basin, rendering it very difficult to apply clamps or ligatures on either side. Treatment thereafter consisted simply in intra-uterine irrigations and systematic medication, and the tumor gradually sloughed away and the patient made a good recovery.

She has remained well since that time, and there is now scarcely any vestige of the tumor to be felt.

I wish to call attention to the fact that there was ultimately in the case here reported a streptococcus infection. The patient may have been infected at the time of delivery, but she had no symptoms of infection until six days after delivery, and it therefore seems more probable that the infection took place late, and that it was due in part to the degenerative changes going on in the tumor.

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T. H. Shoemaker, M. D.:

I want to say a word about the *delivery of the placenta*. When I attended medical college they taught that the accoucheur should wait for a time, say for an hour, after the child was born before delivering the placenta. For years I have always delivered the placenta as soon as I could remove the child. If the child is strong it is not necessary to wait until the pulsations stop entirely in the umbilical cord. I tie the cord and remove the child. Keep a strict watch over the uterus, and when the child is out of the way make gentle pressure on the womb and slight traction on the cord, and ask the patient to blow against the palm of the hand. This procedure throws the diaphragm down and assists in bringing on contractions of the uterus. The practice of the old midwife of having the patient to blow in a bottle will accomplish the same thing. I never have seen any good reason for waiting to deliver the placenta. On the contrary, if you will follow up the contractions caused by labor you will succeed much better than if you wait and let the contractions die down, and then you are not so liable to have the so-called hour-glass contractions of the womb. Labor pains have the same impression on the uterus that electricity has on the muscles of a frog's leg—the contractions will continue after the cause is removed, and thus you will see the advantage of the quick delivery of the

placenta. If I am so unfortunate from any cause to have a retained placenta, I give the patient chloroform and introduce my hand and deliver the placenta without delay.

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Mary A. Quincy, M. D.:

Let us have fee lists that are practical, and teach the under-graduate that there are *four stages of labor* and that we should never leave a case until after completion of the fourth stage, which should follow the third very closely, and consists of the payment of the attending physician by "his honor," the husband. As part of just medical laws let us ask that the State pay a respectable fee to physicians for attending their wards; also, that any person who cannot or will not pay a physician be a ward of the State or county in which they reside. Let us cultivate all our business faculties, and we shall soon educate the laity as thoroughly as railroads, telegraph, telephone and express companies, etc., that obstetric work with us is a cash business.

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Wm. F. Scott, M. D.:

Every conceivable position of the child in utero is a possible position of the child in utero. I am unable to conceive of any possible position of the child in utero, the diagnosis of which is impossible. Regardless of all that has heretofore been said to the contrary, I firmly believe that the *correct diagnosis of every conceivable position of the child in utero* is always possible. In every case of protracted labor, the correct diagnosis of the position of the child is imperatively called for in order to ascertain whether or not the delay is due to an unfavorable position. The measure of the obstetrician's ability to make the correct obstetric diagnosis is the exact measure of his success in the practice of obstetrics.

Of all the different positions of the child in utero, only two positions are favorable, desirable. All other positions, as compared with these two, are unfavorable, undesirable. The two desirable, favorable positions are the two occipito-anterior positions. Of the average 100 births, about 94 per cent occur in one or the other of the two favorable positions.

If, as a result of your examination, you have found (1) that

the fetal body lies in the left side of the uterus, (2) that fetal heart-sounds are heard with greatest intensity at said point, (3) that the fetal head lies above the symphysis, (4) that the fetal extremities are in the right upper part of the uterus, (5) that the sagittal suture is in the right oblique diameter of the pelvic inlet, then make the diagnosis of position as occipito-anterior left. After the birth of the child, examine carefully as to the location of the caput succedaneum. If found upon upper and posterior part of right parietal bone, then your diagnosis was correct. The location of the well-developed caput succedaneum will always truthfully confirm or correct your diagnosis.

With reference to the occipito-anterior right position, look for the fetal body in the right side of the uterus. Midway between the umbilicus and the superior anterior spine of right ileum, look for the greatest intensity of the fetal heart-sounds. Look for the fetal extremities in the upper segment. Look for the fetal head above the symphysis. Look for the fetal extremities in the upper and left part of the uterus. Look for the sagittal suture in the left oblique diameter of the pelvic inlet. After the birth of the child, look for the caput succedaneum on the upper and posterior part of the left parietal bone. If found there, then your diagnosis of this position was correct.

There are two occipito-posterior positions, the right and the left. In the diagnosis of these two positions, I have found external examination of little avail, comparatively. The fact, as shown by careful examination, that you have not an occipito-anterior position and the fact that the point at which the fetal heart-sounds are heard with greatest intensity will be found with unusual difficulty, if found at all, will lead you to suspect an occipito-posterior position. Make a careful internal examination. If the larger fontanelle is anterior, that fact of itself is sufficient for the diagnosis. The oblique diameter occupied by the sagittal suture will tell you whether the position is right or left. If you are still in doubt, and you may be by reason of your failure to find the anterior fontanelle or sagittal suture, then insert your whole hand into the vagina or uterus and palpate an ear. The pinna of the ear will point to

the occiput. So make the diagnosis when you fail otherwise to make it and when the correct diagnosis is essential to the successful management of the case. But the tyro in obstetrics must not forget that from two-thirds to nine-tenths of all occipito-posterior positions at the onset of labor are occipito-anterior at the end of labor. The natural tendency of the occipito-posterior position is to rotate into the occipito-anterior position. Sometimes when the child, with its fetal heart-sounds, urgently requests you to do so, you may assist him a little with your hand in utero in its efforts to rotate from a posterior to an anterior position.

The face and breech positions are somewhat alike, so much so that each is often mistaken for the other. Each has an orifice on either side of which may be found a cheek bone. But in connection with one of the orifices a jaw is found. The orifice with the jaw will sufficiently diagnose the face position. The orifice without a jaw in the anal orifice. The anal orifice, the jawless orifice, is pathognomonic of the breech position.

In cross positions, after the rupture of the membranes, the uterus is noticeably increased transversely. External palpation will show the fetal body in a cross position. But if, after external palpation, you are still in doubt regarding a probable cross position, insert the hand within the uterus to make the necessary diagnosis. In cross positions, after rupture of the membranes, delays are dangerous; and the danger gradually increases with the delay.

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#### R. M. Stone, M. D.:

The giving of *anæsthetics* is an art, a high art, and one only acquired by long and painful experience. Fortunately for me, I never thought that I knew how, but I have found, oh, so laboriously, that one can learn so little at a time, can judge so poorly, that it takes years to know how to watch the patients, to learn to read quickly the signs of danger, to know how serious the conditions are.

As the result of many years of experience I will enumerate some points for the anæsthetist's guidance:

An operator is frequently more concerned about the result

of the work of the anæsthetist than he is about the results of his own work.

In many cases more skill is required to give the anæsthetic than to do the operation. An operation may be practically devoid of danger; an anæsthetic is never.

In more than half of the cases, the patient is in greater danger from the anæsthetic than he is from the operation.

The position of the anæsthetist is, of necessity, subordinate to that of the surgeon. The anæsthetist should be considered a consultant to the surgeon, rather than his assistant. It is as important that he be an expert in the giving of anæsthetics as that the surgeon be an expert in operating.

The muscular tone of the heart is the most important pre-anæsthetic condition. The lymphatic habit is the most dangerous pre-anæsthetic condition.

It is most important to gain the confidence of the patient and to calm him before anæsthesia.

Be sure that there is no artificial plate of a removable nature in the mouth.

The Esmarch is the safest mask for chloroform.

Begin all anaesthesiae slowly: speed is both cruel and dangerous.

Secure profound surgical anæsthesia before the knife is used.

Never observe the operation when giving the anæsthetic.

Watch most closely the color of the face and the lobe of the ear; watch the pupil also.

Train your ear so that it hears every breath without ever seeming to listen to it.

Add to the anæsthetic, whether chloroform, ether, Schleich solution or anæsthol, from the best dropper, the Overholt, by constant, uniform additions.

Beware of a heart of feeble tone.

Beware of a patient, in chloroform anæsthesia, whose eyes are half open; expect trouble.

Always think that the particular patient now receiving the anæsthetic may die on the table. This will reduce one's conceit and make him very careful.

The normal pupil in good, surgical anæsthesia is well contracted and steady.

A pupil rapidly dilating widely from a well-contracted one means death imminent.

A pin-point pupil is indicative of a too profound anaesthesia.

Do not be alarmed over noisy respiration during rectal operations. In chloroform anaesthesia always remove the mask the moment the surgeon begins dilatation of the sphincter ani; otherwise the deep inspiration caused by the dilatation may draw in so much vapor as to overwhelm the patient and cause instant death. This precaution is not necessary with the Schleich solution or with anaesthol.

Never forget that partial anaesthesia, "just enough to keep them under," is very dangerous.

Never forget that the safest anaesthesia is surgical anaesthesia, steadily maintained.

Never forget that the least quantity of anaesthetic which will secure this is the best.

Never forget that Waller was right in saying that "Death is nearly always due to unskillful administration, and that is the administration of an overdose."

Never forget that the lymphatic habit, profound sepsis, feeble heart tone, chronic alcoholism, asthma, serious valvular lesions, and severe albuminuria are the most dangerous states for anaesthesia.

Never forget that the Trendelenburg position, open 'windows,' Laborde method, artificial respiration, the adrenalin solution, and Prus' method of compression of the heart, are the vital points in restoration from a dangerous narcosis.

Never forget that anaesthetic-giving is neither a trade, nor a science, but an art.

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H. A. Royster, M. D.:

From a routine examination of all tubes removed in *tubercular salpingitis*, this condition will be found to be much more frequent than is usually supposed. Williams considered that 8 per cent. was not too high an estimate, and he showed that many tubes thought to be simply inflammatory were in reality tuberculous. There is no doubt from the evidence that a "pre-existing gonorrhoeal salpingitis would predispose the tube to a tuberculous infection." Although an acute and a chronic

form are recognized, yet the former is not such a distinct clinical entity as an ordinary puerperal salpingitis. The best division is into a miliary, a chronic diffuse and a chronic fibroid form, corresponding, as will be noticed, to the varieties of pulmonary tuberculosis.

There are no pathognomonic symptoms of tubercular salpingitis. They may be absent altogether or may be similar to those seen in ordinary inflammations of the tube. The patient's attention may be called to the region affected by irregularities in her menstrual phenomena—menorrhagia in the primary and amenorrhea in the secondary variety. Ascites from a complicating peritoneal tuberculosis gives specific signs of its presence. From this negative symptomatology it will be seen that the diagnosis is seldom made before operation. It might be determined by a tubercular family taint, a primary focus in other organs or in the husband, and the history of peritoneal attacks; or, on examination, tuberculous nodules may be found, along with the rosary-shaped swelling and dilatation of the isthmus.

The repeated finding and removal of tuberculous tubes discovered unexpectedly in abdominal surgery, in addition to a clearer view of the pathology, has led to a more hopeful outlook and a more satisfactory management of the affection. Spontaneous cure may occur through fibroid changes and encapsulation; but when considered as a whole, operative treatment is the only rational plan in every case. Now, what are the indications for operation and what is the method of procedure? If the condition is found accidentally or diagnosed early, radical removal (salpingo-oophorectomy) should be done. The coexistence of peritoneal tuberculosis is an additional reason for operation and not a contra-indication. Since such cases, as we know, are cured by a simple opening of the abdomen, the question naturally arises: should the tubes and ovaries be removed in every case? My opinion is that they should, if the tuberculous process seems to be confined particularly to, and is more prominent in, those structures, and if their removal can be accomplished with safety. Otherwise they would much better be allowed to remain and share in the benefit to be derived from the incision and closure. Ochsner

has recently pointed out that we have been doing too much to these cases, especially in the face of extensive adhesions. In our own experience there has been occasion once at least to regret a too radical digging of the tubes out of the pelvis, and we believe this effort hastened a necessarily fatal result. The problem of operating in cases of tubal tuberculosis secondary to phthisis is to be settled in each instance by operating, if at all, in the early cases, and not at all in the late ones. Tonics, fresh air, and hygiene play a large part in the convalescence, for these patients are usually thin and frail.

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G. Heidner, M. D.:

A word concerning the *manner of giving chloroform*. I have heard and seen several different ways recommended for giving chloroform in obstetric practice. It would hardly seem necessary to tell any physician how to give chloroform to an obstetric patient, it being supposed of course that he knows how to produce surgical anaesthesia. And yet a few hints, especially when to give it, may be of value. A trained assistant to give chloroform is always a convenience, and yet, in ordinary cases I do not miss him very much if I have some woman with a little pluck and average intelligence present. I use an ordinary mask and dropper. If I have no dropper with me I cut two grooves on opposite sides of the cork of my chloroform bottle. In one of these grooves I place a wisp of absorbent cotton which projects a little below and about one inch above the cork. This serves very nicely as a dropper, and is perfectly safe if properly made. By putting the cork tightly or loosely into the mouth of the bottle it can be made to drop fast or slow as desired.

I place the patient nearly horizontal on the bed with one pillow under her head, begin the anaesthesia slowly, giving it mostly just before and during the pains. Gradually increase the anaesthesia as needed. If it is during the first stage of labor, I increase it to complete anaesthesia while the head is passing through the os; especially when the pains are severe and the membranes ruptured early. Then I stop it entirely for a time or give it only just before and during the pains, gradually increasing the anaesthesia when the head bulges the pelvic floor.

I advise the patient to take a deep inspiration or two at the beginning of each pain, then hold her breath and bear down during the height of the pain. Placing something to support her feet and giving her something to hold on to and pull, will materially aid her in these expulsive efforts.

Some women who cannot be induced to bear down before they get the anæsthetic will do so as soon as they get it and will continue to do so until labor is completed. I have often observed that with a little patience on my part in suggesting to the woman, at the beginning of each pain, that she hold her breath and bear down she will continue to do so when she is almost completely anæsthetized. In this way I have delivered many women who appeared to be entirely unconscious to any suffering and yet would do just as I bid them do. When I give chloroform I usually continue it until the shoulders have been born.

Unless I have a trained assistant I begin the anæsthesia myself and continue it until my attention is demanded by the emerging head; then I intrust it to someone who has observed me during the early part of the procedure, who continues under my instruction.

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#### M. E. Douglass, M. D.:

Occasionally we are confronted with certain conditions that our old and trusty friends of the *materia medica* fail to relieve. It is in just these cases that I wish to draw attention to some *rarely used remedies in obstetrics* that I have found of great service.

**Viburnum Prunifolium.**—The allopaths consider this drug nervine, antispasmodic, tonic, astringent and diuretic. It is an excellent remedy in colic, cramp, spasms, palpitation and other affections incident to pregnancy, or arising from uterine disorders and for after pains. But it is particularly valuable in preventing abortion and miscarriage, whether habitual or otherwise; whether threatened from accidental causes or criminal drugging.

It tones up the system, preventing or removing those harassing nervous symptoms that so often torment, wear down, and disqualify the pregnant woman for the parturient

effort. It enables the system to resist the deleterious influences of drugs so often used for the purpose of procuring abortion. It is well known that the inner bark of the cotton-root is used by many to induce miscarriage. The regular exhibition of the viburnum completely neutralizes the effect of the gossypium, compelling the mother, however unwilling, to carry the fetus to full term.

Case I.—Mrs. H. had never gone to full term, but had had several children at the eighth month, all of them dying one month after birth. Frequent pregnancies and hemorrhages had seriously impaired her health. She being again pregnant, tincture of viburnum was given. At the eighth month, as usual, labor commenced vigorously, with copious sanguineous discharge. Both were soon arrested by a free exhibition of viburnum. She went on to full term, and gave birth to a healthy boy.

Case II.—A woman, while attempting to replace a rope in a well-whirl, fell upon the sharp, ragged edge of a rail which was driven in the ground nearby, with one end protruding, making a wound about five inches long, just above pubes, penetrating as far as the muscles of the abdomen. The woman being somewhat advanced in pregnancy, the shock brought on strong labor pains. After dressing the wound, examination revealed the os considerably dilated, pains continuing regularly. Tincture of viburnum, 1 dram; water, 1 oz., was given with directions to take the same quantity if the pains did not cease in one hour. In three hours the patient was resting quietly, with pains relieved. She recovered and went to full term.

Case III is one of menorrhagia, in which the various preparations of iron, ergot, etc., were used without relief. The patient was given teaspoonful doses of tincture viburnum, beginning with the medicine two days before her period. Flow was considerably diminished. The same dose was taken at the next period with marked relief. Patient had been married two years; no children. After taking the viburnum the second time she became pregnant and went to full term.

**Ustilago Maidis** has a general resemblance to ergot in its physiological action. It controls uterine hemorrhage and

induces uterine contractions in a manner similar to ergot, but not with the same promptness or vigor. Ustilago is pre-eminently the ergot of chronic uterine hemorrhages and passive congestions. I would not give it in active hemorrhages from an enlarged uterus with dilated os and cervix, when the blood is of a bright red color, and readily coagulates; in such cases, even if secale was not deemed the similium, our *materia medica* would furnish many remedies efficient and more prompt in their action than the ustilago; but where for many days there has been a slow but persistent oozing of dark blood, with small, black coagula; when the finger, upon being withdrawn from the vaginal examination, is covered with a dark semi-fluid blood, as though partial disorganization had taken place; when the uterus is enlarged, the cervix tumefied, and the os somewhat dilated, but swollen and flabby, indicating that the whole organ is in a most passive and congested state; when in spite of all treatment the blood continues to ooze day after day simply from lack of some means of overcoming its "invincible inertia," the ustilago is, in such cases, a remedy of most gratifying promptness and efficiency. It has shown itself able in several cases not only to control the hemorrhage, but to remove the entire pathological condition upon which the hemorrhage depended.

Case.—Mrs. X., a brunette, stout, and inclined to corpulence; two years married, had, about one year since, a severe hemorrhage; abortion was suspected but no ovum was discovered. Since then she has had frequent and long-lasting attacks of hemorrhage of dark, very offensive-smelling blood; the menstruation was of similar character, and during her intermenstrual periods she had a copious and most offensive yellowish discharge. Any unusual exercise was followed by flowing, lasting for several days. The cervix uteri and fundus were greatly enlarged, but not sensitive to the touch. Various remedies were given, among which were sepia, trillium, crocus, secale, ipecac and sabina, all of which had a fair trial, but without any appreciable effects. Applications were made to the os of pledges of cotton saturated with glycerin, pure and also in combination with iodine and carbolic acid. These produced their usual copious serous discharges, but without

sensibly diminishing the size of the womb. She was given a package of powders of ustilago, first trit., with directions to take one three times a day for twenty days. At the expiration of that time she returned with a most favorable report. The leucorrhœal discharge was much diminished in quantity and its odor less offensive. She now took long walks without a recurrence of the flowing, and her menstrual period, which she had just passed through, lasted only five days, instead of eight or ten as previously. On examination the hypertrophy was found considerably lessened. The treatment was continued four weeks longer, when the patient was entirely well.

**Phoradendron.**—Dr. Long says that for a number of years he has used mistletoe as an oxytotic, having been led to do so from observing that farmers in the part of the country where he had formerly practiced, were in the habit of giving mistletoe to each of their domestic animals as failed to "clean themselves," or expel the placenta after the delivery of their young. In 1857 he first used an infusion in the case of labor, in which the second stage was delayed through inefficiency of the uterine action. Contractions followed in twenty minutes.

He believes in its superiority to ergot:

First. Because it acts with more certainty and promptness.

Second. That instead of producing a continuous or tonic contraction, as ergot does, it stimulates the uterus to contractions that are natural, with regular intervals of rest. Consequently it can be used in any stage of labor, and in primiparæ, where ergot is not admissible.

Third. It can always be procured fresh, does not deteriorate by keeping, and is easily prepared.

He has used viscum album in many cases of menorrhagia and hemorrhage from the uterus with gratifying results, and has taken pains in such cases to give ergot and mistletoe a competitive trial, with the object of testing their relative merits; he pronounces in favor of the latter. Indeed, cases in which ergot given in powder, decoction and fluid extract failed to give any relief, the viscum acted promptly.

In post-partum hemorrhage, the results have been no less satisfactory than in labor and menorrhagia, firm contrac-

tions of the uterus being secured in from twenty-five to fifty minutes after administering from one to two doses of the mistletoe.

**Gossypium** causes, and has also cured, anorexia and nausea at the time of the menses; morning vomiting in the early months of pregnancy, with violent retching, tendency to fainting, soreness of the uterine region; the nausea appears on waking, and the vomiting on first raising the head; only a thick fluid and a little bilious matter is ejected, with passage of wind both ways.

Dr. Williamson reports cases of amenorrhœa, dysmenorrhœa and menorrhagia cured by gossypium.

**Cimicifuga Racemosa.**—As a parturient cimicifuga was in general use among the Indians in the early settlement of this country. Bigelow speaks of it as an active agent in facilitating parturition; and Tully says he has known many cases where it has produced abortion in pregnant women, when prescribed for a cough. Prof. Lee says: "It is believed to exert a specific influence on the uterine contractions, lasting longer than that of ergot, and followed by less torpor and greater susceptibility and capacity for action in the uterus than before its employment. Its operation, also, is not attended by that deleterious and stupefying influence on the fetus which often follows the administration of spurred rye."

After delivery it has been extensively and successfully used for the purpose of inducing firm uterine contractions, expelling the placenta, and checking post-partum hemorrhages. In resorting to the cimicifuga in atonic labors, we need not give massive doses; five to ten drops of the mother tincture, every fifteen or twenty minutes, is amply sufficient to bring back or arouse the deficient vitality of the uterus. But there is an opposite condition of the uterus which sometimes obtains during labor, a state of hyperexcitation, in which the normal uterine contractions are spasmodic, painful and intensely powerful, but intermitting; sometimes with cramps in the extremities, and a tendency to general convulsions. Here the cimicifuga is primarily homeopathic, and a small quantity of the three or six attenuation will suffice to restore the normal parturient action. This medicine will be found useful

after labor, in producing firm contraction of the uterus, expelling the placenta or checking post-partum hemorrhage.

After-pains are often relieved rapidly by small doses of cimicifuga second or third, in those cases which seem to be kept up by a neuralgic disposition, or mental and nervous irritability, and the patient was sleepless, restless, sensitive and low spirited.

Suppression of the lochia is treated successfully with this remedy. When from a cold or mental emotion the discharge is arrested uterine spasms and cramps in the limbs sometimes occur, accompanied with headache and even delirium.

It is also useful for the relief of those bearing-down pains, indications for prolapsus, which women frequently suffer from after severe confinement. It is eminently homeopathic to a tendency to abortion. It has caused abortion in many instances, and is commonly resorted to for that purpose by reckless women.

◆ ◆ ◆

#### D. A. Stanton, M. D.:

In gynæcological cases there are some expedients, strictly medical, that conspire to the comfort of the patient. One of the best is vigorous *application of ice to the abdomen*. No matter how great the care exercised in operating, it sometimes happens that germs find their way into the wound, and a septic condition is set up; it may be localized, or it may be general, but there is no doubt that post-operative peritonitis may often be prevented or controlled, and its products and mortality correspondingly lessened by the proper use of ice. Theoretical objections have disappeared as we have become more familiar with its use. No injury to the skin has followed its use, and no depression of the general system has been observed. Pain, which is one of the most distressing symptoms after an abdominal or pelvic operation, becomes less annoying if ice is applied all over the abdomen. One bag on top of a thick dressing of cotton and gauze is of course without value. For the relief of traumatic pain, one or two ice bags over a thin gauze dressing usually suffice. But when an attack of peritonitis is feared, or actually exists, four or five bags of ice should be kept in place day and night. They

should be separated from the skin only by a towel binder, or thin layer of gauze.

◆ ◆ ◆

L. B. McBrayer, M. D.:

Production of Premature Delivery.—It has been my misfortune to feel it my duty to terminate labor before full term in three cases:

The first case in which *premature delivery* was called for was a 9-para. She was comatose at six months with chronic Bright's disease, which at the time I could not differentiate from the coma of eclampsia; delivery was entirely artificial, and was completed in three hours. Patient recovered slowly from coma, and died at the end of twelve months from her chronic nephritis. The vision was entirely destroyed in this case by albuminuric retinitis and hemorrhage into the choroid. There was also blood in the urine, both by macroscopical and microscopical examination. About one month after delivery no blood could be found in urine, but sight was never restored.

The second patient was a 4-para, and had persistent vomiting of pregnancy; tried everything that could be thought of, heard of, or read about, in the way of medicine, and all kinds of food from fried cabbage to liquid peptonoids, until the stomach absolutely refused to retain anything, not even crushed ice in champagne, for one moment. I then began on the other end, and gave all food and drink and a little medicine by the rectum, until that organ also refused to obey my commands or entreaties, at the end of which time, which was about four and one-half months, my patient was so near the pearly gates that she could see within the portals, and she was perfectly willing to enter, and just as willing to go to the other place, or anywhere else, to get rid of that terrible nausea; pulse 130, temperature 101½; at this stage I terminated the pregnancy, and found a uterine mole. I introduced uterine sounds into uterus to bring on labor; pains came on in fourteen hours; nausea stopped immediately after I entered the uterus; patient took some nourishment before uterus had emptied itself, and she had an uninterrupted recovery; has given birth to two children since with normal labor and puerperium.

The eloquent clergy may be fond of giving their supporters glimpses into the City of the New Jerusalem, but as for me I shall never allow another patient of mine to go so near the brink with pernicious vomiting of pregnancy.

A primipara, aged twenty, was seen in consultation with Dr. Dunn, who was treating her for tuberculosis; husband also tubercular; had had more or less treatment for nausea; five months and one week advanced; had had distressing nausea since beginning of second month. Stomach finally refused everything, and rectum was never very much better; for the last ten days while we were testing the efficacy of rectal alimentation, patient vomited mucus and bile every day, although nothing was swallowed, unless it was saliva. Patient, already thin and anemic from her tubercular process, lost fifteen pounds more during this trying ordeal, which brought her down to ninety pounds; temperature normal, pulse 100. Dr. Dunn reported that the tubercular process was at a standstill, and of course she was receiving no treatment for that trouble. Brought on labor by rupturing membranes with uterine sound, and introducing catheter into uterus and keeping it there by vaginal tampon. Of course all known precautions as to asepsis were taken. At the end of twenty-four hours patient had a chill, and temperature went up to 102; removed catheter and gave vaginal douche, sterile water; temperature fell to normal in twenty-four hours, and at the end of seventy-two hours from time of invasion of uterus pains came on, and eight hours later delivery was complete. This was June 8th, 1902; patient at this time seems to be in good condition. It is my opinion that tubercular married women should be warned not to allow themselves to become pregnant, and instructed, if necessary, how to prevent it. Further, should a tubercular woman become pregnant, I believe, in justice to both mother and offspring, the pregnancy should be terminated as soon as it is diagnosed.



Geo. Barksdale, M. D.:

Used in obstetrical practice, a *breast binder* I hold to be a mischievous device of man to thwart the purposes of nature.

## **Book Reviews.**

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**A TEXT-BOOK OF DISEASES OF WOMEN.** By BARTON COOK HIRST, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

The general practitioner will find the subject matter set forth in such a clear and forceful way that he cannot fail to obtain a good grasp on the subject of gynecology and will be able to intelligently treat the ordinary conditions that are met with in his practice. The sections on gynecological surgery are profusely illustrated, so that that portion of the work is well elucidated and represents the best status of that department of surgery as practiced to-day.

Especial attention is paid to the subject of diagnosis, and the author's experience in the field of Obstetrics has served to make this work a valuable and fitting sequence.

The many illustrations are very fine, almost all original, reproduced from the author's collection of photographs and water-colors of actual clinical cases.

**THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY.** For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, etc. etc. By W. A. NEWMAN DORLAND, A. M., M. D., 3d Edition. Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Price, \$4.50 net; with thumb index, \$5.00 net.

This very handsome and conveniently arranged volume is pleasing to the eye and convenient for daily use, just the book to have within reach. It is of an encyclopedic character in a limited way, and the wonder is that so much can be put in such small space. The rapid exhaustion of two large editions is of course highly gratifying to the editor and publishers, which goes to show that it meets the requirements of students and physicians probably better than other works now on the market. This third edition has been amplified and revised, and several hundred new terms recent in medical science have been added. It is the purpose that this work shall in every way reflect the progress of advance in medicine and kindred branches. It is a beautifully printed and bound volume, and the illustrations are of a very practical and useful character. The pronunciation, definition and derivation of each word is given.

## Translations.

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### ADENOMA AND CARCINOMA OF GAERTNER'S DUCT.

Meyer (Zentralbl. f. Gynäk.) recently exhibited before the Berlin Obstetrical Society a specimen of a large tumor developed from Gaertner's duct in an eight months fetus. He defined it as a congenital adenoma. Adenoma and adenomyoma in the substance of the cervix which could be traced to Gaertner's duct have been observed in adults. They could not have arisen from the Wolffian body, as has already been demonstrated. Meyer also brought forward a uterus unicornis in a newborn child, showing bifurcation of Gaertner's duct, and a specimen of bilateral adenoma of Gaertner's ducts, themselves highly developed, from an adult. The adenoma was very exuberant, and at several points transition into papillomatous cancer was detected; there were already metastatic deposits in the vagina.

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### PREGNANCY SIMULATED BY FIBROID AND ATROPHY OS ENDOMETRIUM.

Volk (Centralbl. f. Gynäk.) reports a case of total atrophy of the uterine mucous membrane with rapid development of a fibroid of the uterus. The patient was twenty-four years old, and had been married for over a year; on account of abrupt cessation of the catamenia, nausea, and the development of an abdominal swelling connected with the uterus pregnancy was suspected. The breasts, however, did not swell, the growth of the swelling was irregular, no movements were felt, no fetal heart was audible and there was no lividity of the vaginal mucous membrane. After the sixth month the tumor felt much less like a pregnant uterus, and when the catamenia had ceased for fifteen months rigors set in with fever and symptoms of partial obstruction. Schauta removed the entire uterus, which was as big as a man's head. A large myoma occupied the anterior wall. During the operation the cause of the amenorrhœa was not apparent. The parts were carefully examined afterwards. There was no trace of any product of gestation in the uterine cavity, but the endometrium was in a condition of extreme atrophy. The ovaries, full of dilated lymph spaces, contained very few follicles. There was some relation between this atrophic state of the ovaries and

the changes in the uterine mucosa; the cause of the amenorrhœa was explained. The febrile and obstructive symptoms were due to degenerative changes in the fibroid and rapid increase in its bulk.

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#### DANGEROUS HEMORRHAGE FROM OVARY— OVARIAN GESTATION?

Gottschalk (*Centralbl. f. Gynäk.*) recently reported a case of operation for internal hemorrhage. He afterwards read a communication before the Berlin Obstetrical Society, and showed microscopical sections of a firm clot which he detected in the midst of the blood in the peritoneal cavity. This clot fitted into the cavity of a ruptured follicle in the ovary, which was seen at the operation to be the seat of bleeding. In the interior of the clot was an ovum as big as a pea, with perfect chorionic villi. There was great dilatation of the vessels in the stroma of the ovary adjacent to the ruptured follicle; indeed, blood sinuses had formed. The tube showed no evidence of recent gestation; two of its fimbriæ adhered to the clot. There was some discussion on Gottschalk's specimen, and doubts were expressed about the gestation being ovarian. Gottschalk insisted on the ovarian origin of the pregnancy. The seat of rupture was, he said, evident, and he witnessed with his own eyes during the operation that it was also the seat of the hemorrhage. No decidua tissue, it is true, was to be found in the ovary, but in any case its development was limited and inconstant. The dilatation of the vessels included distinct hypertrophy of the walls of arterioles, which could not be the result of ligature of the ovarian vessels during the operation, as had been suggested.

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#### MISSED LABOR: FETUS 441 DAYS IN UTERO.

Hagmann (*Monatsschr. f. Geb. u. Gyn.*) has recently published an interesting article on Retention of the Fetus in the Uterine Cavity beyond the Natural Term of Pregnancy. For obstetrical and forensic reasons the subject is of high importance.

In the unpublished case which he records the patient was thirty-nine, and had been six times pregnant. On January 16, 1900, she aborted at the third month and placental relics had to be removed. The next period occurred on February 16th and lasted seven days. Pregnancy soon became evident, and there was unusual sickness, with bad headache. On October 17th the patient had to take to her bed owing to an attack of acute nephritis, the urine was four-fifths albumen,

and the pulse and temperature high. On the next day the patient declared that she felt the fetal movements stop with a sudden jerk. They were never felt afterwards, but uterine contractions were marked for several days. After suitable treatment the nephritis subsided. The uterus became a little smaller, but the patient felt very ill; she had been for many years subject to pendulous abdomen, and the complication caused extreme discomfort. On April 2, 1901, 440 days after the cessation of the last period, she was admitted into the Marien Hospital, Stuttgart, and on the next day the fetus, which had been clearly definable throughout, was removed by Cæsarean section with its placenta. The latter hardly bled at all when detached. The uterine cavity also contained fetid brown fluid, and was washed out with a 1 in 1000 sublimate solution, followed by artificial serum. A strip of iodoform gauze was passed into the uterine cavity, the lower end being pushed into the vagina; then the long incision in the anterior uterine wall was closed with nine deep and five serous sutures. The left ovary, being the seat of a small tumor, was removed. The patient's recovery was rather slow, but she ultimately left hospital in good health. The fetus was a female, 16 in. long, breech-presenting, and altogether much distorted by pressure. The placenta, considerably modified, was carefully examined.

Fifteen other cases of missed labor, besides that of Oldham, are described by Hagmann, who carefully analyses them.

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#### HYSERECTOMY IN ACUTE PUERPERAL INFECTION.

Pinard (*Ann. de Gynéc. et d'Obstét.*) condemns this operation on scientific grounds. First, he dwells on the mortality in the Baudelocque clinic from 1890 to 1903. The deaths from genuine puerperal septicæmia were 69 in 26,952 labors, or 0.25 per cent. In 2 cases hysterectomy was performed and both patients died. The first underwent operation on the tenth day and died four days later. It was believed when the uterus was removed that the symptoms indicated suppurative thrombo-phlebitis limited to the uterus; but at the necropsy pus with streptococci was found in the left pleura, a condition not diagnosed during life. In the second case, supravaginal hysterectomy was performed, the cervix being left and the abdominal cavity drained. The patient died a fortnight later.

Pinard lays great stress on the fact that in necropsies made on the majority of the 67 cases of fatal puerperal septicæmia, never once was the septic lesion found to be localized in the uterus. In two exceptional cases sloughing fibroids, over-

looked during life, were detected on the post-mortem table. Again, bacteriological examination of the blood proved entirely unfavorable as an indication for hysterectomy.

The presence of streptococci in the blood is not always followed by death. In Widal's case of colic-bacillus septicæmia hysterectomy would have been useless, as the woman died on the fourth day after the symptoms of infection set in, of cerebro-spinal meningitis. Lastly, in none of the fatal cases did the clinical symptoms show that the uterus was the only source of the infection, or that the uterine lesions were such as to be unsuited for local therapeutic measures less radical than hysterectomy.

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#### UTERINE FIBROID AND CYSTIC KIDNEYS.

Doléris and Algret (*La Gynéc.*) describe how death from acute uræmia and hemiplegia followed on the fourth day after the removal of a large uterine fibroid.

The patient was a married woman, aged forty-four; fairly healthy; there was a trace of albumen in the urine, and the temporal arteries were firm and sinuous. A swelling was detected before operation in the left loin, but it was apparently part of the fibroid; there was no groove between it and the uterine tumor. Retroperitoneal hysterectomy above the cervix was performed. The patient ceased to breathe twice during the operation. Chloroform was the anæsthetic employed. Coma set in rapidly, followed by hemiplegia, which did not involve the face. Urine and feces continued to pass almost to the last. Both kidneys were found to be greatly enlarged, and transformed into cystic tumors of the polycystic type. The liver did not share in this degenerative process, as is sometimes the case.

The authors note that it is difficult to diagnose enlargement of the kidneys due to general cystic degeneration when the abdomen is already distended by a big fibroid tumor; the urine often shows little morbid change. They consider that ether, or even local administration of cocaine, is safer than chloroform as an anæsthetic in cases of hysterectomy for large fibroids.

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#### FIBROID OF CERVIX OBSTRUCTING LABOR.

Böhnke (*Monats. f. Geb. u. Gyn.*) writes of a V-para, aged twenty eight, who was sent into a lying-in hospital for flooding of a fortnight's duration. She was in the ninth month of pregnancy, and strong pains had set in. A soft, solid tumor

as big as a man's head had dilated the cervix and projected into the vagina. The fetal head presented behind it, and, of course, delivery was impossible as long as the tumor occupied the pelvis. The tumor, however, had already loosened itself in part from its attachments, but was still connected with the wall of the cervix on the left. Böhnke succeeded in enucleating it. So much hemorrhage was set up that delivery had to be hastened by turning and extraction. The child was born alive. The cavity in the uterus whence the fibroid was extracted was plugged; fourteen days later it was hardly large enough to lodge a hen's egg; the patient was in perfect health.

The tumor weighed  $2\frac{3}{4}$  pounds, and measured over 7 inches in its longest diameter. It was a true myoma with necrotic changes in the center.

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#### THE PHYSIOLOGICAL CHOLÆMIA OF THE NEW-BORN.

Gilbert, Lereboullet, and Stein (*Ann. de Gyn. et d'Obstét.*) have made a series of experiments on the serum of the mother, the child, and the funis at delivery. All cases where the infant was jaundiced at birth or became so shortly afterwards were rejected. Simple physical examination shows that as compared with the maternal serum the serum of the vessels in the cord is distinctly bilious. Gmelin's test confirms this appearance. The importance of ascertaining whether the fetal serum is also rich in bile is evident, but the experimenters found that it was difficult to make an accurate estimate by ordinary tests, because serum in the new-born child becomes discolored by hemoglobin after removal. They evaded that source of fallacy by determining, with the assistance of distinguished chemists, the quantity of bilirubin in every sample of serum. The result was that they found that the blood in the cord contained about three times more bile-pigment than could be measured in the maternal blood. The blood of the new-born is one-third richer in bile-pigment than that of the cord. Thus there is a physiological cholæmia in the new-born very marked yet clearly normal.

The experimenters insist that the maternal cholæmia is secondary, being derived from the fetus.

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#### PLACENTAL INFARCTS.

E. Franke (*Prof. Orth's Festschrift*) from a microscopic examination of 79 infarcts in 36 full-time placentas, finds that the cause of infarction is an interference with the maternal blood stream, associated with change in the maternal vessels.

at their point of opening into the intervillous spaces, and with necrosis of the material decidua and hemorrhage into its tissue. The changes in the terminal openings of the maternal arteries are laceration of the vessel walls and thromboses. Rupture from its surroundings, inflammatory changes, and pressure from ingrowing villi are amongst the causes of necrosis of the decidua. Infarcts are most frequent where the blood stream is slowest, or where the conditions are most favorable for separation of the placenta, necrosis of the decidua and venous thrombosis. Hence the frequency of marginal infarcts. The infarcts are closely related to, and generally lie with their broader base upon, the arterial terminations. The growth of large cells is a secondary phenomenon, is most pronounced about the margin of an infarct, and is more active when the infarct is of long standing. Fetal endarteritis is also regarded as a secondary result of infarction.

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#### INTERSTITIAL (TUBO-UTERINE) GESTATION.

Steffeck (*Centralbl. f. Gynäk.*) reports a case where, after the period had been missed for six weeks, severe abdominal pains with symptoms of internal hemorrhage set in. There was no tumor in Douglas's pouch, but a crackling sensation was noted when pressure was made in its direction. The uterus was of the size of the second month, and a soft prominence could be felt on its right side. Abdominal section was performed, and the peritoneal cavity was found to contain much free blood; the intestine adhered firmly to the back of the uterus. On separating the adhesions, free bleeding occurred from the ruptured fundus. The uterus was amputated at the cervix, and the patient made a good recovery. A two-months fetus lay in a cavity in the uterine wall on the right side superiority; the tube was intact.

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#### TUBERCULOUS MENINGITIS AFTER SOUNDING OF UTERUS.

The sound, like every other appliance necessary for clinical research, must be used with caution. It may perforate the uterus or pass up the canal of one tube, a subject which has occasionally come under notice in our columns. That it may transfer septic and specific germs from one patient to another there can be no doubt. It is not only the gonococcus, streptococcus, and staphylococcus which may be introduced into a healthy uterine cavity and cause local disease. In a case recently reported by Henkel (report of a meeting of the Gesellschaft für Geburtshilfe und Gynäkologie zu Berlin, *Zentralbl.*

f. Gynäk.) a girl, aged twenty who had never menstruated was admitted into the Berlin University Clinique. She suffered from regular monthly pains in the sacral region without any show of blood. The sound had been repeatedly used, never with success. Stenosis of the os internum, retroflexion, and hematometra were suspected. A thorough examination was conducted under an anæsthetic, an attack of very acute tuberculous cerebro-spinal meningitis followed and proved fatal. The uterus was found retroverted; its fundus contained a mass of calcified tubercle; the sound appears to have reached it, making a false passage. Besides other local lesions there was tuberculous disease of the left fallopian tube. The general diffusion of tubercle was quite recent and appeared undoubtedly due to local injury from the sound.

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#### LABOR OBSTRUCTED BY A CYSTIC TUMOR.

M. Haagen (Dept, med. Woch.) reports the history of a woman, aged thirty, who had her first baby on December, 1896. On examining her, he found that the posterior vaginal wall was pushed forward by a large tumor. With some difficulty, an anæsthetic having been administered, he succeeded in passing the finger past the tumor, and found that the vertex of the fetus was presented. The tumor appeared to be of about the size of a fetal head, was densely hard, and did not reveal any fluctuation. Before having any recourse to abdominal section an attempt was made to decrease the size of the growth, and, on puncturing it a quantity of fluid escaped. An incision of about  $2\frac{3}{4}$  inches was made into the tumor, which proved to be multilocular and through this incision the finger was passed and the septa broken down. Some  $\frac{3}{4}$  litre of dark brown, turbid, odorless fluid was evacuated. As the pains did not come after waiting for three hours, Haagen applied the forceps and delivered a full-time child, which however, was deeply asphyxiated, and could not be resuscitated. The perineum was ruptured to the second degree. This was sutured. The lying-in was complicated with fever, post-partum hemorrhage, suppuration of the cavity of the cyst, retention of urine, and general weakness, and the patient was not well for three months. In the beginning of 1899 she again consulted Haagen, and he found that there was a truncated hypertrophy of the cervix, with deep tears on each side of it. Retroversion and flexion of the uterus, and non-union of the perineal rupture. The cervix was therefore amputated, and colporrhaphy, anterior and posterior, and Alexander-Adams's operation were performed by Professor Winter.

She became pregnant in the following year, and on October 6, 1900, the pains set in. On arriving Haagan found that the waters had already escaped, the fundus reached a hand's breadth above the umbilicus, and the fetal head could be felt above the pubes. She was probably in the seventh month of pregnancy. On examination per vaginam a tumor of the same size and in the same position as at the first labor was felt. This time it was not so hard. With difficulty he succeeded, without anaesthetizing the patient, in palpating the external opening in the uterus. This opening was round, of about the size of a sixpenny bit, and felt densely hard and fibrous. The head could be felt through the opening.

As the patient was in good condition he delayed interference for a time, but on the morning of the 8th, as the patient's temperature was rising, and the os was not dilating, and as no fetal movements could be felt and no fetal heart sounds heard, he punctured the cyst and let out about  $\frac{1}{2}$  litre of fluid. Two vaginal specula were then introduced and as the os had not enlarged from the size mentioned, he made three small incisions into the fibrous tissue without causing any hemorrhage. The labor did not progress, and he therefore perforated the fetal head and delivered by means of the cranioclast. The mother did well.

Haagen points out the importance of making an exploratory puncture into a vaginal tumor which is obstructing labor, even if it feels densely hard, before proceeding to operate.

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#### REPEATED TUBAL PREGNANCIES.

Cohn (Zentralbl. f. Gynak.) gives a short but clear report of two clearly authentic cases of that condition. In the first a fetus  $3\frac{1}{2}$  inches long was found in the peritoneum; its placenta lay in the ampulla of the left tube, which bore a laceration big enough to admit a finger; the funis hung out of it. It was reported that the right appendages were normal. Four years later a second operation was performed for ruptured tube; the fetus,  $2\frac{3}{4}$  inches long, had been expelled with its placenta through a rent in the ampulla of the right tube. In the second case a fetal sac in the left tube was removed; it was noticed at the time that the right appendages were bound down by adhesions from which they were set free. One year and a-half later the patient underwent abdominal section for internal hemorrhage with rise of temperature. An incomplete tubal abortion was discovered. The patient made a good recovery.

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# MEDICAL PROGRESS

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## *AN INTERESTING CLINICAL CASE.*

A white woman, twenty-two year of age, was taken into the hospital on account of syphilitic skin disease (*roseola papula*) ; a blennorrhagic vaginitis of most violent description with strong congestion of the mucous membranes of the vagina. The latter was of violent hue, somewhat brittle, and yielded abundant secretion of a greenish yellow pus, which showed under bacteriological examination abundant colonies typical of gonococcus, diplococcus and other varieties of bacteria. The gonococci infection reached to the neck of the uterus whose tissues suffered from the same degeneration as the vagina. Above the mouth of the neck,—from which a greenish yellow and somewhat thick pus oozed,—was a syphilitic ulcer of the size of a dime, clean at the bottom, livid in color and rather deep.

Upon careful examination, the patient was found to be pregnant in the third month. Under the treatment employed she improved, but though the blennorrhagia was not cured, the syphilitic manifestations of the skin disappeared, and the ulcer at the neck improved somewhat, until confinement which took place at the eighth month.

The confinement was normal. However, the patient was attacked by a great flux and suffered a complete laceration of the right side of the neck, an incomplete laceration of the left side; an incomplete laceration of the rear wall of the vagina; and a two-thirds laceration of the perineum. The placenta was removed at once; ample warm washes of a 1 per cent. solution of permanganate of potash were applied and the uterus was stimulated by massage, but remained inert. All this was reported to me by the house physician. I arrived at the hospital four hours later in company with Dr. Capote, who, upon having examined the patient, decided to sew up the lacerations. He washed out the vagina and uterine cavity completely; adjusted with the scissors the edges of the lacerated tissues; sewed up the wounds and touched the ulcer at the neck with the cauterizer; then he gave another wash and plugged with iodoform gauze.

When the patient was on the operating table, she had fever,  $38.4^{\circ}$  C. At 5 P. M. the fever was at  $39^{\circ}$ ; then the vaginal plug was taken out and a great intra-uterine wash of a one-half per cent. solution of permanganate was applied very hot in a quantity of five liters. The fever was at  $40^{\circ}$  throughout the night, and washes were given every few hours.

## MEDICAL PROGRESS.

The following day, at 8 A. M., temperature 40°, same local treatment. The fever lasted all day, falling to 39° by the wash, but rose again to 40°.

The day thereafter, fever at 41°; same treatment with more vaginal washes of bichloride of mercury before the uterine washes; the fever keeps on at 41°.

On the next day at 8 A. M. (temperature 41.5°), I took out the stitches made on the day of confinement, washed well both uterus and vagina, dried the latter with carbolated cotton and conveyed into the uterine cavity eight grammes of pure Hydrozone, taking care that this liquid should flow towards the vagina, into which I poured about 60 grammes of the same liquid and drained the uterus with simple gauze saturated in Hydrozone, while the vagina was drained by the same means.

From that time on the fever declined slowly, and at 6 P. M., it was apyretic. The fever did not return and the patient's cure proceeds without further difficulty.

This case which is interesting by itself, proves of great value in setting forth two points; viz.:

1. That, although the intra-uterine injections of pure Hydrozone may be dangerous, it can be applied if care is taken to keep the neck dilated as much as possible.

2. That in this case the superiority of Hydrozone over the other treatments of puerperal septicæmia, in connection with gonococci, is indisputable; and that this splendid result should encourage repetition of its application.—Dr. Matias Duque (San Antonio Hospital).—Revista Medica Cubana.

## ITEMS OF INTEREST.

—Aletris Cordial Rio is an emmenagogue, not abortifacient. It cures congestion of the uterus and ovaries, and favors the occurrence of the menstrual discharge. It is also especially appropriate when the amenorrhea depends upon anaemia. It regulates menstruation, and is useful in all the derangements of menstruation, namely, amenorrhea, dysmenorrhea, and metrorrhagia, provided these disturbances be idiopathic. By curing menstrual disease, a common cause of sterility, it will also cure the sterility. It is also recommended in erosions of the cervix and vulvar eczema.

## IN MATERNITY CASES.

Dr. L. C. Benerman of Philadelphia writes: "I have had most perfect results in Maternity Cases using Platt's Chlorides, diluted with fifteen (15) volumes of water as a douche and applied on cotton externally to absorb the secretions."

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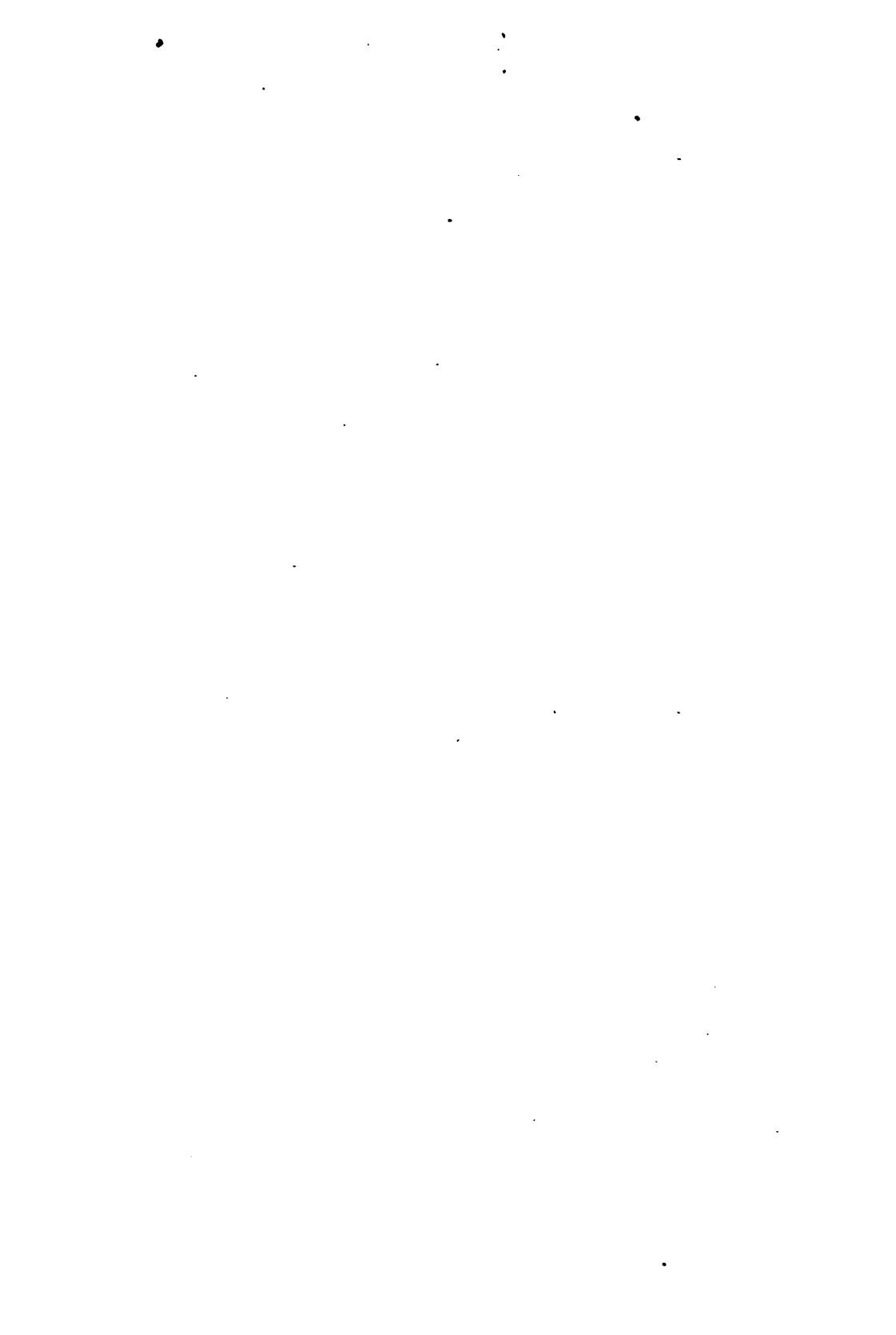
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